# The Hunterian Oration

ON

# JOHN HUNTER AS A PHILOSOPHER.

*Delivered at the Royal College of Surgeons of England on Feb. 15th, 1909, in the presence of Their Royal Highnesses the Prince and Princess of Wales,*

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MAY it please your ROYAL HIGHNESSES,

Mr. VICE-PRESIDENT, your GRACE, my LORDS, LADIES, and GENTLEMEN,—My first duty is to request your Royal Highnesses to accept the grateful and respectful thanks of this College, and the surgical profession of England which this College represents, for the great favour you do us by honouring the memory of John Hunter, whose inheritors we are, by your presence here to-day. We shall ever remember with great pride that you, Sir, have deigned to accept the diploma and sign the roll of the Honorary Fellowship of the College, and the graciousness of this act has been deeply accentuated by its having been performed in the presence of Her Royal Highness the Princess of Wales.

I will also venture to add that your Royal Highnesses' visits of sympathy and compassion, such as those of the last few days, to several of the London hospitals, visits which give so much gratification and delight to the patients and so much countenance and encouragement to the management and staffs of the hospitals, tend to qualify you, Sir, for the diploma you have to-day received; for in the noblest spirit and in the best sense of the words you have thus been engaged in that most essential part of the surgical curriculum known as "walking the hospitals."

We are met in memory of John Hunter, who was born 181 years ago yesterday, who died on Oct. 16th, 1793, and is interred in Westminster Abbey.

Those who founded this oration designed that it should be expressive of the merits not only of the said John Hunter, but also of such persons deceased since the delivery of the last oration whose labours have contributed to the improvement or extension of chirurgical science.

Two men of remarkably strong character—namely, Sir Joseph Fayrer, Bart., K.C.S.I., LL.D., F.R.S., and Mr. Timothy Holmes—died in 1907. The former, a Fellow of this College, was distinguished for his public and private services in India and at home, for the sound good sense of his teaching and practice, and for his standard work on the poisonous snakes of India. Mr. Holmes was noted for his scholarship and extensive learning, for the eloquence of his spoken and the pungency of his written language, and for his services in various capacities in connexion with this College.

In 1908 death removed three others—namely, Mr. William Allingham, Mr. Reginald Harrison, and Sir Alfred Cooper. All three were men well known by their works and writings in their respective fields of surgery, and the last two will be remembered by those who knew them personally for their exceptionally genial characters and lovable natures. Mr. Reginald Harrison and Sir Alfred Cooper, like Mr. Holmes, were Vice-Presidents and members of the Council. Mr. William Allingham likewise had served for a term of years as a member of the Council.

By the death of Professor Charles Steward, LL.D., F.R.S., who was conservator of the Hunterian Museum for 23 years and who died in office in 1907, science lost a distinguished physiologist and this College a most able officer, a skilful draughtsman, and a very lucid and admirable lecturer.

An Italian poet has feigned that at the end of the thread of every man's life there hangs a little medal or collar stamped with his name, and that when Time with the shears of Atropos has cut the thread he throws the medals into the river Lethe; but that about the river there are many birds flying up and down who catch the medals and, after carrying them round in their beaks a little while, let them fall into the river; only there are a few swans which carry off certain medals to a temple consecrated to immortality.

Though it may be that none of the names I have mentioned have been carried by the swans to the Temple alluded to by Ariosto, other birds have secured the medals, and sparing them from the waters of Lethe have deposited them with the records of this College. There they will not be forgotten.

Those are rare epochs in science which are marked by distinct progress due to some particular worker like John Hunter. Though his name is not associated with any very striking discovery like that of the circulation of the blood by Harvey, or the specialisation of nerve function by Charles Bell, his influence upon many sciences was both far-reaching and profound. His contributions to knowledge in human and comparative anatomy, in the natural history of plants and animals, in vegetable and animal physiology, and in geology and palæontology, were of such signal value that progress was made in each of these sciences through his labours. In one of his papers to the Royal Society Hunter, in referring to the light thrown on pathology by the then recent physiological discovery of the lymphatics as part of the absorbent system, wrote: "A discovery in any art not only enriches that with which it is immediately connected but elucidates all those to which it has any relation." The truth of this is illustrated by his own investigations, which, by enriching physiology, illuminated the whole range of medicine and surgery, and may be said to have given birth to the "*Philosophy of Disease*," as pathology may well be named after what Hunter did for it.

John Hunter was the only man in England in the eighteenth century who took a really comprehensive view of the phenomena of nature; the only great natural philosopher between the date of Sir Isaac Newton's death in 1727 and the coming of those brilliant examples of our national intellect, Erasmus Darwin, John Dalton, Humphry Davy, and Thomas Young, all epoch-makers, whose works appeared immediately after Hunter's death in 1793. There was, however, in France an exact contemporary of Hunter whose life-work was very similar to his. This was Louis-Jean-Marie Daubenton (1716–1800), the rival of Réaumur, as the leader of natural history in France; a considerable anatomist, who dissected and described 182 species of quadrupeds; a coadjutor of the great Buffon; a great authority in vegetable physiology, in mineralogy, and on fossils. It is highly probable that Hunter and Daubenton were influenced to some extent by each other's work; Hunter by Daubenton, more particularly in palæontology. Sir Richard Owen has styled Cuvier "the Founder of Palæontology," but the claim to that title really belongs to Daubenton, whose memoir on the application of comparative anatomy to the study of fossil bones was published in 1762, or 34 years before the writing of Cuvier on the subject.

Very different opinions concerning (1) John Hunter's early education and (2) his method of investigation as a philosopher have been expressed by his biographers, yet clear information is obtainable on these points. The impression to be gathered from much that has been written of him is that he was one of the class of untaught geniuses who have risen to the highest intellectual eminence by their own unaided powers; that up to his twenty-first year he was indolent, averse to study or to submit to being taught, idling his time in bird-nesting and low companionship, and that he finally took up the study of anatomy and entered the medical profession after failing to become, or tiring of being, a millwright or a cabinet-maker. I am satisfied, from the evidence of extant letters written by his relatives and contemporaries, that this description is wrong in nearly every particular. He was the grandson of Francis Hunter, who was the second son of Hunter, the laird of Hunterston in Ayrshire, whose family history goes back to the thirteenth century. His father was the owner of a small estate at Long Calderwood in Lanarkshire, seven or eight miles from Glasgow, which he farmed himself. John Hunter's mother was a Miss Paul, the daughter of the treasurer of the city of Glasgow. John was the youngest of ten children; but besides himself, only two brothers and two sisters lived to grow up. Both brothers received the usual school and university education. James, the eldest, became a writer to the Signet. William, who was ten years older than John, was celebrated as a teacher of anatomy and surgery and a leading London physician. Of the two sisters, Dorothea Hunter married the Rev. James Baillie, afterwards Professor of Divinity in the University of Glasgow, and became the mother of the famous physician, Dr. Matthew Baillie, and also of two daughters, one of whom, Joanna

Baillie, was the highly gifted authoress of the Dramas on the Passions, and one of the closest friends of Sir Walter Scott. The other sister—Janet Hunter—died within a year of her marriage and immediately after John Hunter came to live in London in 1748. Her husband was a sociable, musical, but unbusinesslike young man, named Buchanan, of good family and good patrimony, who had settled in Glasgow as a partner in a large firm of timber merchants. At that date there were no upholsterers in Scotland and high-class furniture was made in workrooms in timber yards, where foreign and rare, as well as indigenous and common, woods were obtainable. It was here that John Hunter, who prided himself upon his manual dexterity, tried his hand at cabinet making during a short visit which he paid to his sister, Mrs. Buchanan. Hence originated the statement made by his spiteful and disparaging biographer—Jesse Foot—that Hunter had served, and failed, as a millwright or carpenter.

John Hunter lost his father when in his fourteenth year, and having for some time before ceased to attend school continued to live at home under his mother's influence till he came to London in his twenty-first year to study anatomy under his brother William. He was fond of games, but passed much of his time rambling amongst the woods and braes and taking notice of every form of animal and vegetable life. Thus, without going to school and college, and getting the same education as his two brothers, he was gaining the knowledge which he could best assimilate and laying the foundation of his future greatness in natural science and surgery. The constant companionship of his mother and the example set him by his brothers and sister, Dorothea, was an education in itself. John Hunter might have said what Charles Bell wrote of himself: "My education was the example set me by my brothers. There has been a good deal said about education, but they appear to me to put out of sight example, which is all in all." And speaking of his mother Bell adds, "She was my only teacher."[1] One gets the impression from their biographies that the home life of both Hunter and Bell had an elevating and an educating influence and was devoid of the superstitions and fanaticism then prevalent in Scotland.

Since the time of Demosthenes, who from his seventh year was brought up and educated by his mother, a great many men who have attained to greatness have ascribed their success to the instruction received from their mothers. Two of Hunter's most distinguished disciples, Sir Benjamin Brodie and Sir Charles Bell, did so very emphatically. Cuvier is another instance.

In reference to his lack of school and university training it is well known that there are those to whom this routine is insurmountably repugnant but who yet are eager in the acquisition of other forms of knowledge. To quote Sir Charles Bell again in reference to his own experience, he said: "The memory of verse, or Latin rules, without intellectual comprehension of some principles, I was incapable of. This incapacity depressed me, and it was only when in professional education I found subjects more suited to my capacities that I began to respect myself, and favourably compare myself with my fellow students." Charles Darwin also has told us that school as a means of education was to him simply a blank. John Stuart Mill as a philosopher, Henry Thomas Buckle as a historian, and Robert Louis Stevenson as an essayist and writer of fiction may be cited from amongst many other distinguished men who had no regular school or university education.

As to the assertion that John Hunter was fond of low society, his association with the men whom he met at the house of his highly educated and highly cultivated brother William, and the fact that he married Sir Everard Home's sister, a charming and accomplished woman, all tend to contradict it. Mrs. John Hunter was very musical and wrote the words for Haydn's (1732–1809) English Canzonets, one of which—"My mother bids me bind my hair"—is among the best known. Hunter himself was fond of art and was a collector of prints and engravings and armour.

As to what was the philosophic method pursued by Hunter as a man of science, his writings tell in no uncertain manner. There are only two methods open to the intellect—Deduction and Induction. Deduction starts from a general proposition and reasons from this to individual cases. Induction starts from individual facts and reasons upwards to general propositions. For example, reasoning by Deduction from the major proposition "All men are mortal," and the minor proposition which I will put thus: "Mr. Brown possesses all the attributes of man," we arrive at the conclusion that "Mr. Brown also will in time die." Reasoning by Induction, on the other hand, we first ascertain (say, from reading innumerable biographies, from the records and histories of nations, from tombstones and epitaphs, and from various facts in past and present experience) that everyone who has lived has died, and then we conclude that not only will Mr. Brown himself die but that all Brown's family, and all the families of Brown, of Jones, and of Smith, &c., in fact that all men are mortal, notwithstanding the miraculous disappearance of Enoch, and that Elijah "went up by the whirlwind into the skies." Did time permit I might illustrate the difference between Deduction and Induction by other but less simple instances than that I have just given, and at the same time show the difference between the Scotch and English national methods of inquiry—e.g., between Cullen and Hunter in their investigation as to whether all animal matter is originally vegetable matter; or between Hutton and William Smith who respectively were the founders of Scotch and English geology; or, again, between Watt and Cavendish who at the same time discovered, Watt by deduction and Cavendish by induction, that water is the component of two gases. Of each of these instances it may be truly said that the inductive philosopher (the Englishman) established the facts and the deductive philosopher (the Scotchman) established the ideas. Deduction and Induction have for the most part been employed separately, but by a few investigators they have been combined.

In the history of the world there have been three great intellectual movements leading to three great schools of philosophy—namely, the philosophy of Antiquity identified with Greece, Scholasticism identified with Charlemagne and France, and the New Philosophy which is of English birth and identified with the name of Francis Bacon. Excepting the philosophy of Aristotle, which was largely inductive, the first two were chiefly deductive. The Baconian is known as the new inductive method. In reviewing the intellectual movement of the eighteenth century in England, Scotland, and France in its bearing on Hunter and his work, we find that each country adopted one of the two philosophic methods as the national method. To understand this movement better it would have been well had time permitted to take a brief glance backwards at the philosophy of earlier ages.

Up to the end of the fifteenth century first Greek philosophy and then scholasticism had monopolised men's thoughts, but during those 2000 years and more they had done nothing to mitigate human suffering, nothing to advance the public weal, nothing to extend the empire of man over the material world. Indeed, the application of science to useful practical ends was deemed by the old Greek philosophers to be unworthy of men of learning, degrading and debasing to philosophy and insulting to philosophers.

Scholasticism, which was a blend of Christianity and Paganism, an "ill-starred alliance between the old philosophy and the new faith," was in reality the logic of Aristotle associated with the teaching of the church, and by it reason became subject to authority and was made the mere handmaid of faith.

As men's interests ceased to be centred in ecclesiastical disputations and their attention became by degrees directed to art, science, and practical discoveries, they looked about for someone who would lead them to the dawn of a new philosophy. This leader was discovered in Bacon, who propounded a philosophical system essentially new and differing alike both in method and object from that of the Ancients and that of the Mediævalists or Schoolmen.

Bacon described with scorn the uselessness of the philosophy of the Platonists, the Peripatetics, the Stoics, and the Epicureans. Equally he scouted the system and dogmas of the Schoolmen. Whilst disclaiming to be himself the founder of a sect or school, and fully foreseeing that his method was by no means perfect, he gave a new and powerful impulse in a direction diametrically opposed to both the Greeks and the scholastics. Some who have never studied his works seem to entertain a very incorrect idea as to what it was Francis Bacon really did for science. Of course he did not invent Induction. The inductive

[1] Letters of Charles Bell, p. 10.

method has been practised ever since the world began: by every infant before weaning, by every new-born mammal as it learns that it will get milk from its mother, not from its father; by every farm labourer who finds by experience that he cannot gather grapes from thorns nor figs from thistles, and that if he sows tares he will not reap wheat or garner barley. We are all employing the inductive method daily, and many who have never read the rules laid down in the "Novum Organum" are conducting the process as well as, or better than, many who have. Bacon's great merit is that he "led forth the sciences from their house of bondage," that he directed the minds of men away from mere verbal disputations to the discovery of truth by observation and experiment, that he incited men to develop the industrial arts and to acquire knowledge and apply it "to the glory of God and the relief of man's estate."

The chief cause of this great reformation in philosophy was the great reformation in religion.

### THE INTELLECTUAL MOVEMENT IN ENGLAND.

In England that enlightened scepticism and spirit of inquiry which in religion conduced to toleration, in politics to freedom, and in physics to natural science, came to the front in the sixteenth century with the Reformation, increased with the Rebellion of 1645, and was confirmed by the Revolution of 1688. The Reformation dissipated the notion of the infallibility of the Church. The history of different countries shows that as long as the governing power was in the hands of ecclesiastics there was no toleration in religion and little or no advance in science. It was in England during the reign of Queen Elizabeth that government for the first time in any European country was carried on without the active coöperation of ecclesiastical authority, and it was also during her great reign that there began the growth of that splendid literature which was to stimulate and increase the national spirit of liberty and inquiry and to spread its influence, in a generation or two later, first over France, then throughout Europe.

During the first half of the seventeenth century, which was a period of great superstition, there was an effort to reverse the enlightened policy of Elizabeth. The influence of this on works of learning is well illustrated by the two books of Sir Thomas Browne. His "Religio Medici" was published about 1634. In this book the author exhibits a superlative degree of credulity, expresses his belief in witches, and declares his willingness to assent to a proposition all the more because of its improbability, and his readiness to believe in a thing in proportion to its actual impossibility. But 12 years later (1646), when the Civil Wars of the Rebellion were raging and men's intellects were becoming more and more independent of authority, Sir Thomas Browne's second book, "Enquiries into Vulgar and Common Errors," appeared, and proved to be a systematic and elaborate attack upon most of the superstitions then prevalent. The striking inconsistency between these two works by the same author marks the growth of the vast social and intellectual changes which culminated in the overthrow of ecclesiastical intolerance and political persecution.

With the Restoration came an increased desire for knowledge. The period following the Revolution of 1688 forms one of the most important periods in the history of the world, because it was then, and in this country, that the human intellect was completely freed from subjection to authority; and it was then, and in this country, that the triumph of liberty over despotism, and of reason over blind and enforced credulity was permanently and completely accomplished. The suppression of superstition was further aided by the earnestness with which the physical sciences began to be cultivated during the Commonwealth and after the Restoration. The Royal Society was established in 1662 and Robert Boyle (1626–1691), who adopted the views and method of Bacon, was making discoveries of the very first importance.

When Hunter arrived in England he came amongst a people deeply imbued with the Baconian spirit, for if Harvey, Hobbes, and Newton be excepted, all English scientists for 150 years after the death of Bacon in 1626 were eminently inductive. Newton, who was born 16 years after Boyle, had been dead 21 years when Hunter came to London in 1748, and the only giant mind in England to be likened to Hunter was Edmund Burke (1728–1797), the reflective and philosophic statesman who resembled him in the power of his intellect, in his marvellous capacity for thinking, and in his conception of general principles based on long-considered ideas. Hunter's rôle was the philosophy of life and nature; Burke's the philosophy of civilisation.

Though during Hunter's life there was no one in England pursuing science who was at all comparable with himself, or with the great Scotch and French philosophers and scientists then living, still the period covered by Hunter's residence in London was one of great national brilliancy and renown in many branches of learning and culture, despite the depths of political and commercial degradation into which the country fell owing to the taxation of America and the American war and its consequences. The British Museum was founded in 1753 through the collections made by Sir Hans Sloane being purchased by the Government on his death. Sir Hans Sloane followed Sir Isaac Newton as President of the Royal Society. Like Hunter, he was led to study medicine owing to his intense love of natural history. He was the first person in England to attempt to form a museum; and it is interesting to note that the British Museum, the Glasgow Museum, and the unrivalled museum in this College owe their existence to collections made by London medical men of Scotch extraction—namely, Sloane, William Hunter, and John Hunter respectively.

In literature and art the eighteenth century was very illustrious. The Royal Academy was founded in 1768 at the instigation of Benjamin West, a Pennsylvanian Quaker, who startled the Italians by likening their Belvidere Apollo to a Mohawk warrior, and who is said to have painted 400 pictures for King George III. With West three other artists were associated in obtaining the Charter of the Royal Academy, one of them being Penny, the son of a London surgeon, who was made the first professor of painting. Dr. William Hunter was appointed the professor of anatomy.

It has been said by one of the biographers of Sir Joshua Reynolds that there centred round him as the first President of the Royal Academy a "surprising and splendid constellation of genius such as never before his time and never since illumined this country." Reynolds lived opposite John Hunter in Leicester Fields, now Leicester-square, and his genius as an artist has pictured for all times on the canvas suspended behind me, the thought-inspired features of the famous surgeon. The "Marriage à la Mode," the "Rake's Progress," and the other "pictorial sermons," as they have been called, of Hogarth; the "Blue Boy," the "Celebrated Duchess," and the grand landscapes of Gainsborough; the character portraits of Lady Hamilton by Romney, and probably some of the earlier paintings by Lawrence and Hoppner, must have been known to Hunter. So, too, the works of West, Cosway, Richard Wilson, Opie, and others of less importance. Now, for the first time in its history this country produced genius enough to establish its claim to the honourable distinction of having "an English school of painting." Bartolozzi, the Florentine, settled in London in 1764, and for 40 years was occupied here in engraving pictures—his reproductions being, as a rule, more beautiful than the originals. Angelica Kauffman, too, was delighting Londoners by her sentimental pictures, astonishing them by her cold-blooded and unsentimental marriages, and decorating with pseudo-classic paintings the interiors of houses in the Adelphi and of mansions elsewhere, built by the brothers Adam. Hogarth, Edmund Burke, Samuel Johnson, Oliver Goldsmith, David Garrick, Sterne, and others, all friends of William Hunter and his brother John, were meeting daily at the Literary Club, the Turk's Head, or Reynolds's house. Fielding, having published "Tom Jones" (1749) and "Amelia" (1751), was annoying Richardson by his burlesque of "Pamela," and worrying the Government and the Lord Chamberlain by his satires on bribery and the elections. Smollett's "Roderick Random," published in 1748, may have been read by Hunter during his first journey from Scotland to London. The Rev. Laurence Sterne created a great popular success by the gross innuendoes and indelicacies of "Tristram Shandy"; and the prim little Fanny Burney (Madame d'Arblay) became famous as a novelist of irreproachable propriety. "The Tragic Muse"—Sarah Siddons—had all but drawn tears from Hunter's eyes; and David Garrick as "Felix" in "The Wonder: a Woman Keeps a Secret," must on some occasion or other have made him laugh until he sobbed. Pope and Swift and Sir Robert Walpole died when Hunter

was 16 or 17 years old. Alexander Pope was a friend of Cheselden, and Cheselden was Hunter's first surgical instructor. In this way, through Cheselden, perhaps, or perhaps from hearing the poems read aloud when a boy at home, Hunter must, I think, have been influenced or inspired by Pope. The "Essay on Man" was published in 1734, and it is impossible to read some of Hunter's statements or to follow his lines of thought without being frequently reminded of passages on nature and the universe and the relation of man to the rest of the universe which that poem contains. Lastly, as a collector of prints, pictures, weapons and armour, *et cætera*, Hunter probably encountered that personification of affectation—Horace Walpole—in some of the curio shops or sale-rooms of the town, when Walpole was hunting for oddities and rarities to add to the motley collection for which he was notorious. Collecting was becoming quite a fashion at the time.

### THE INTELLECTUAL MOVEMENT IN SCOTLAND.

The intellectual movement in Scotland differed widely from that in England in the seventeenth and eighteenth centuries. After the passing of the Acts of 1707 ratifying the union of Scotland and England good roads and canals connecting the chief towns and districts were made and manufactures and commerce were promoted. Hence it happened that just about the date of Hunter's birth Scotland, for the first time in her history, produced two classes of enterprising and thinking men whose aims were essentially secular—namely, an industrial class and a philosophical class. During Hunter's early manhood, commercial and manufacturing prosperity had fairly set in, and philosophers and scientists of the very highest eminence were beginning to make the name of Scotland famous by their labours. The number of original thinkers in Scotland in the eighteenth century is the more noteworthy because in all the previous centuries the country had only produced two authors whose works were of the least merit—namely, Buchanan (1506–1582), the Scottish historian and the greatest Latin scholar of his time, and Napier (1550–1617) the inventor of logarithms. But the most striking fact about Scotland in the eighteenth (and the first half of the nineteenth) century was the existence of so many philosophers and the creation of a noble and enduring literature, at a time when the Scotch were the most priest-ridden and superstitious people in Europe, not excepting even Portugal and Spain. Besides the influence of the Scottish kirk, another cause of the continuing ignorance and superstition of the people was the national method of inquiry. Centuries of ecclesiastical supremacy had influenced the nation in favour of the theological method of reasoning; and as the Church required the acceptance on faith of general principles and dogmas, and regarded it as heresy to doubt or question—this method was necessarily the deductive. Induction under such conditions is impossible. Paley, and the authors of the Bridgewater Treatises, and many essayists tried it and failed. When, therefore, the ablest minds in Scotland directed their thoughts and attention to philosophy and science, they without exception employed the deductive system with which they had been made so long familiar. Thus it was with Hutcheson and Reid in metaphysics; with Adam Smith and Hume in political economy and history; with Black in physics and chemistry; Cullen in pathology; Hutton in geology; and Leslie and Watt in chemistry. In all branches of science it was the same. All the discoveries made by Scotchmen concerning both the inorganic and the organic world were made by the deductive method.

### THE INTELLECTUAL MOVEMENT IN FRANCE.

As there is reason to think that Hunter was acquainted with the scientific work going on in France, notably that of Daubenton, and as Hunter's work was not without effect on some of the great French scientists, such as Cuvier and Bichat, I propose to examine very briefly the intellectual movement in France just before and during Hunter's lifetime.

The spirit of intellectual progress for which France was celebrated during the age of Richelieu and Descartes in the first half of the seventeenth century did not continue. In the second half of that century, and during the rest of the reign of Louis XIV., it was thwarted and delayed by the despotic and protective spirit of Government which was an early but a weighty cause of the French Revolution; just as liberty and reform in England were checked by attempts in the first half of the seventeenth century to suppress the popular will and to reinstate in power the Catholic clergy. Immediately, however, after the death of Louis XIV. in 1715, the state of the popular mind in France, which was thirsting for inquiry and hungering for liberty, was as favourable to the reception of the Baconian system in that country as the popular desire for political and intellectual freedom in England had been in the seventeenth century. When, therefore, in spite of the natural vanity of the French people during Louis's lifetime, the eyes of France turned after 1715 to England as the only country where liberty was known, nearly every Frenchman of eminence in literature and in medical and other sciences either visited England or learnt the English language; many did both. Voltaire, Diderot, Buffon, and Montesquieu all took part in introducing English literature and English philosophy into their own country.

During the second half of the eighteenth century many of the best intellects in France were directed to physical science. A hundred years before Descartes had made it a fundamental principle of his philosophy that we must ignore the knowledge of the external world—i.e., of nature—and must depend on "thought." Now, Helvetius, the most celebrated French moralist, and Condillac, the most celebrated French metaphysician of their period, said "we owe the whole of our knowledge to nature." It was this latter view which led to the discovery of more new truths in science by Frenchmen between 1750 and the end of the eighteenth century than had been made in all previous periods put togther. The names of Lavoisier, Foucroy, Berthollet, Fournier, Buffon, Daubenton, Cuvier, and Bichat bear testimony to this. The vast discoveries which were being made roused general interest and curiosity in France. Some acquaintance with science came to be considered essential to a good education. Lectures in all branches of science drew together persons of the highest rank as well as of the several classes below them. Women of fashion attended lectures on chemistry, geology, mineralogy, physiology, and anatomy. Antoine Petit's lectures on anatomy (commenced in 1768) were delivered before overflowing audiences. Cuvier[2] tells that the anatomical descriptions which Daubenton wrote for Buffon were to be seen on the toilet tables of ladies. Oliver Goldsmith, who was in Paris in 1755, remarks with surprise that he saw "as bright a circle of beauty at the chemical lectures of Rouelle as gracing the Court of Versailles." It was the same at the public séances of the Académie Française in 1779 and at Foucroy's lectures on chemistry in 1784. Such was the condition of the intellectual life in France, and particularly in Paris, during the latter half of Hunter's career.

The same spirit prevailed in this country. The English democracy had just begun to enter eagerly into political life. There was also a great increase in the general desire for knowledge and this demand was augmented by the very steps taken to satisfy it. Now for the first time the public at large took some interest in the cultivation of the fine arts, and in 1760 there was held the first public exhibition of pictures by English artists. It was during the eighteenth century that booksellers first started shops in the provinces and that circulating libraries and periodical reviews were first introduced. The publication of the proceedings in Parliament against which the last standing order was passed in 1728—the year of Hunter's birth—and concerning which the Lord Mayor and an alderman of the City of London were sent to the Tower in 1771, became an established parliamentary institution from 1772. Before the second quarter of the eighteenth century printing establishments were almost unknown in provincial English towns and printing presses were only by degrees being set up in country towns in the latter half of the century. It was in the eighteenth century also that the earliest systematic attempts were made in England to popularise the sciences by lectures, to spread knowledge of physical truths through the medium of encyclopædias and simple treatises, and to give enlightenment by means of public addresses on such subjects as political rights of the people. It was in the latter half of the same century that Sunday-schools, reading clubs, and debating societies first came into existence.

This desire to learn and this rapid and widespread diffusion of knowledge amongst the peoples of France and

[2] Eloges, vol. i., p. 56.

England were in large measure attributable to the fact that both the French and English national philosophical method was Induction. The condition of the Scotch people at the corresponding period was in marked contrast.

By comparing countries whose national system is Deduction with those whose national system is Induction it is abundantly proved that knowledge is never widely diffused amongst a people by the deductive method, which begins with ideas, but that it spreads by means of the inductive process, which begins with facts. The deductive process, by dealing with abstract ideas, appeals to the thinking faculty and not to the senses, and as ideas are more difficult to grasp than facts, and as there are more good observers than great thinkers, deduction influences the popular mind much less than induction. Hence it was that the Scotch people did not seek enlightenment and were content to continue in subjection to theological authority; hence it was that in England the overthrow of Scholasticism (i.e., of the purely syllogistic philosophy of the Middle Ages) by the Baconian system was followed by the general extension of knowledge and trade; and hence it was that in France in the seventeenth century the deductive philosophy of Descartes and the Cartesian philosophers did not lead to the general instruction of the people; whereas in the eighteenth century, after English literature, English opinions, and the philosophic views of Bacon and Locke were introduced into France by Voltaire and others, knowledge spread rapidly amongst all classes of the French people.

With increase of knowledge came unhappily a feeling of revenge for the political and social wrongs they had suffered for generations, and the French mind, bent on obtaining freedom, was fired by a deadly determination to resist oppression and defy absolutism which finally culminated (in 1789) in the revolting cruelties of the greatest and most ghastly revolution the world has ever known.

On October 16th, 1793, John Hunter died suddenly when attending a board meeting in St. George's Hospital. On the same day and about the same hour Marie Antoinette was beheaded in Paris.

## HUNTER'S METHOD OF INQUIRY.

The study of Hunter's works shows that he combined to an exceptional degree the two philosophic methods—Deduction and Induction. There is no evidence that Hunter studied formal logic any more than Latin and Greek. He was essentially a thinker rather than a scholar, yet an experimental philosopher rather than a metaphysician. But Hunter saw that for a complete scheme of knowledge Deduction and Induction are supplementary to each other, and when the times come, if ever it does come, when all the intellectual resources of man are fully developed and perfectly coördinated, then these two methods of reasoning will no longer be regarded, as they now often are, as hostile to one another but will be combined in a single system.

Though a great inductive philosopher Hunter employed the deductive method very largely, especially in pathology. He reasoned downwards from premises and hypotheses which he deliberately invented, and in doing so arrived at conclusions, sometimes unproven, sometimes inaccurate, sometimes only approximately correct. Still, though it is true that some of his doctrines have had to be modified, some even set aside altogether, yet, on the other hand, it is astonishing how many of his speculative conclusions, both in physiology and pathology, formed at a time when microscopes were very inferior and chemical science was in a backward state, have been confirmed by his successors working with much better instruments and with additional and very superior aids to research. Thus did his genius often outstrip facts and anticipate discoveries.

His employment of the inductive method is illustrated by his attempt to explain congenital defects by a reference to transitory structures and the metamorphoses of fœtal life, as in the case of congenital hernia, which arises from the failure of the peritoneal process to become shut off from the peritoneal cavity. Other instances of his use of induction are his scheme for the classification of monstrosities, based on the disposition which every species of animal and every part of an animal body has, to deviate from nature in a manner peculiar to itself; his instructions to Jenner as to how he should ascertain whether colour blindness is due to a general defect or to a failure to appreciate the usual impressions made by primary colours; his careful and patient anatomising of so many hundreds of different species of animals and of so many animals of the same species; his numerous observations of plants; and his untiring investigation of the diversities of structures and organs in order to arrive at accurate conclusions as to what structures and organs are necessary for the performance of different functions. As a result of these dissections and observations he pointed out the conditions which characterised groups of animals, classifying them according to their hearts, their nervous systems, their stomachs. In this he anticipated Cuvier. Following the induction method he trusted to nothing but his own observations and to testing his ideas by the most varied and exact experiments. His "Treatise on Bees" is an admirable illustration of this. Yet in making inquiries before drawing his conclusions he is neither prodigal of facts nor wasteful of experiments. In reference to Swammerdam's minuteness of description of the particular structure of bees, he says that minutiæ as such should be avoided, that they are only of value in so far as they elucidate principles, that notice need not be taken of things that are common to a bee and to other insects, "but only of its peculiarities which distinguish it from all others [animals] and constitute it to be a bee."

Hunter, in his "Observations on Digestion," when criticising Réaumur and Spallanzani, remarks: "I think we may set it down as an axiom that experiments should not be often repeated which tend merely to establish a principle already known and admitted, but that the next step should be the application of that principle to useful purposes."[3] And then he goes on to say: "But the application of principles requires more than simply the knowledge of the principle itself, and therefore those who cannot reason from analogy, or draw general conclusions from a few convincing facts, and who require to have every relative conclusion or inference proved by experiment, must be pleased with Spallanzani; but he must tire even those whom he informs and much more those who read his works in expectation of something new."[4]

He made great use in practice of analogy and comparison, of resemblance and of difference. Many arguments and inferences drawn from analogy occur in his writings, some of them amounting to the most perfect induction, but others, it must be acknowledged, leading him into error. Fallacies of analogy are to be found in his treatise on the teeth—e.g., he concludes from his experiments with madder on the teeth, as compared with others on bone, that the teeth have neither a vascular supply nor absorbents. Again, he argues from the existence and use in carnivora of canine teeth to their use in man as organs for tearing and the prehension of food; thus ignoring or overlooking the fact that canine teeth are far more developed in some animals which are exclusively frugivorous. Some of his analogies are indeed mere conjectures—e.g., he infers that the bicuspids are less useful than either the incisors or the molars, and he attempts to support this by saying: "In most animals, so far as I have observed, there is a vacant space between cutters and grinders."

It was chiefly by induction that he concentrated the scattered facts of comparative anatomy and thereby advanced the progress of physiological science. But a considerable part of his pathology also is based on the inductive process. Notwithstanding his vast achievements in physiology he was even greater as a pathologist. If it be remembered what pathology was before his own time it must be admitted that in this science Hunter remains without a rival. It is in this science especially that his depth of insight, his profundity of thought, and his comprehensiveness of view mark him out as a genius. With Hunter pathology included the laws of disease not only in man but in the whole of the animal and vegetable kingdoms. His outlook was even more comprehensive still, for it embraced not only the whole of the organic world but the deviations from the typical form in the inorganic also. In the study of the obscure phenomena of disease there is more scope for speculative ideas than for experimental research, at any rate for the forms of research which were possible in Hunter's day. It is therefore in his pathology much more than in his physiology that Hunter employed the deductive method. Thus he lays it down "as an axiom that two processes

[3] Hunter's Works, vol. iv., p. 86.
[4] Ibid., vol. iv., p. 87.

cannot go on at the same time in the same part of any substance."[5] Two different fevers cannot exist in the same constitution; nor can two local diseases be present in the same part at the same time. Such names as rheumatic gout, which imply a combination of two diseases, suggest a possibility of a union which, according to Hunter's principle, cannot exist. Again, in his treatise "On the Blood, Inflammation, and Gunshot Wounds"[6] he adopts the principle that the specific qualities in disease tend more rapidly to the skin than to the deeper-seated parts; and he regards this as a law of nature similar to the principle by which vegetables always approach the surface of the earth. The whole chapter on Sympathy in his "Principles of Surgery"[7] is full of deductive reasoning. The doctrine of health and disease, as explained by him in his "General Principles of the Blood,"[8] as well as in his "Principles of Surgery,"[9] illustrates his desire to build arguments on principles which he spontaneously assumed.

Still another instance of deduction is his reasoning from the hypothesis that the immediate cause of action is the same in both animals and plants, but that whilst in animals there is a greater quantity and variety of motion, in plants there is more real power. He illustrates this difference by the horse and the vine. The vine can raise a column of fluid five times higher than the horse's heart can do, the energy or power of the animal being weakened by being directed to several different purposes.[10] In his "Treatise on Venereal Disease" his arguments are based upon the too hasty generalisation that affections which admit of cure without the use of mercury are not venereal. He thus made the remedy the test of the disease, and sought to substantiate this preconceived idea by facts. His attempts to prove that monsters are formed as monsters from their very beginning supplies another example of his use of deduction. When reasoning deductively he so much relied on his premises that he sometimes refused to accept any evidence by which they were impugned. In his inductive investigations, however, he never disguised or perverted facts to make them tally with his hypotheses. Instead of endeavouring to render facts and theories consistent with one another, when they evidently were not, he would adhere to his hypothesis without blinking the facts. Thus he asserted that teeth are extraneous bodies without either circulating vessels, absorbents, or nerves, but when after transplanting teeth he thought he had established the fact that they were "capable of uniting with any part of a living body,"[11] he explained this power of uniting by attributing to teeth what he called a "living principle."

His Croonian Lectures on Motion contain admirable examples of his employment of the combination of deduction and induction.[12]

Buckle, in his "History of Civilisation,"[13] attempts to explain the intimate union of Deduction and Induction in Hunter's intellect by the fact that he was born and remained till his twenty-first year in Scotland and afterwards passed the rest of his life in London, where he became socially and intellectually a native of England. "Hence," says Buckle, "the early associations of his mind were formed in the midst of a deductive nation, the latter associations in the midst of an inductive one. The country of his birth made him deductive, the country of his adoption made him inductive. As a Scotchman he preferred reasoning from general principles to particular facts; as an inhabitant of England he became inured to the opposite plan of reasoning from particular facts to general principles." And Buckle adds: "I make no doubt that one of the reasons why Hunter, in investigating a subject, is often obscure, is that on such occasions his mind was divided between these two hostile methods." Buckle's line of argument is here purely deductive and capable of being thrown into three or four strictly correct syllogisms—correct, that is, as to figure of syllogism, but not as to the ideas on which they are founded. Before accepting or rejecting Buckle's explanation, however, we must consider the premisses on which he bases his conclusion. Like many deductive reasoners, he assumed the truth of his major premise without having explained the facts on which it rests. He, an Englishman, has argued like the Scotch he describes; his logic being good if we concede the general propositions from which he starts. But can we concede them? Is it true that philosophers who have passed their youth among a nation whose method is deductive and their manhood among a nation whose method is inductive, or *vice versâ*, have their minds divided between these two hostile methods and, in consequence, are often obscure in their investigations? The conclusion will be proved to be false if it can be shown that a philosopher may pass his youth in a country without ever coming under the influence of the national philosophic method.

This was the case with John Hunter; he never did come under the influence of the ordinary Scotch teaching. In Scotland the clergy had the control of all centres of education, both public and private, throughout the country. They directed what should be taught, and how it should be taught, not only by village schoolmasters and masters of grammar schools, but by the professors in the universities, and even by private tutors. Had John Hunter continued at school and proceeded to a Scotch University he would of course have come under the influence of the deductive method. But even if his education had been of the usual Scotch type it does not follow that he would have adopted the Scotch philosophical method. His two brothers, James and William, who did receive such an education, did not adopt it, not even William, who was a resident pupil for three years and a lifelong friend and correspondent of so thorough-going and so able a deductive reasoner as Cullen.

The courage shown by John Hunter, when a boy of 12 years old, in a cottage scene described by his niece Joanna Baillie, justifies the assertion that he was not imbued with the clerical teaching and superstitions prevalent at the time in Scotland. In the eighteenth century the most popular divines in Scotland, as well as the clergy generally, taught that Satan frequently appears clothed in a corporeal substance, and that he seized persons and carried them away in the air. When the preacher mentioned the name of Satan the church resounded with sighs and groans, and the congregation were petrified with awe as they listened with gasping breath and hair standing on end. Such impressions were not easily effaced. Images of terror accompanied the ignorant people to their homes. No wonder therefore when a ghost in form of the devil appeared, whilst Hunter was chatting in a neighbour's cottage, that the cottagers, educated after this manner, were stricken motionless with fear, whilst young Hunter, brought up differently, attacked and drove away the apparition with the fire-tongs.

The second statement made by Buckle is that the conflict in Hunter's mind between Deduction and Induction darkened his understanding. I can no more accept Buckle's explanation of the occasional obscurities in Hunter's utterances than Buckle could accept Ottley's—namely, that they resulted "from a deficient education." I agree with Buckle that a deficient education no more makes a man obscure in his statements than a good education makes him lucid. With educated and uneducated alike the power of clear expression depends on clearness of thought. When Hunter is obscure it is either owing to the complexity of his subject or to his own mind being in doubt. The adoption by Hunter of both methods—Deduction and Induction—was, in my judgment, the result of two causes: (1) the natural scope and bent of his mind; and (2) the nature of the subjects to which he devoted his life. Induction is largely the method required for the profession he chose. Locke and Sydenham had left it on record that in their opinions the medical sciences to be properly pursued ought to be approached by the Baconian method, and Hunter was one of a family several members of which showed a great leaning towards, and a marked aptitude for, these sciences.

James Hunter gave up his profession as a barrister and William, who was to have been a clergyman, abandoned the Church for anatomy, surgery, and medicine, and John of his own free will went directly into the medical profession. Their sister's son, Matthew Baillie, became the celebrated London physician and pathologist whose medallion portrait is stamped upon the cover of the Transactions of the Pathological Society of London. John Hunter was also a disciple of Bacon in that he employed induction in the pursuit of truth with an ulterior regard to utility and the good of

[5] Ibid., vol. iv., p. 96; Ibid., vol. ii., p. 132; Ibid., vol. ii., p. 34.
[6] Ibid., vol. ii., p. 285.
[7] Ibid., vol. i., p. 317.
[8] Ibid., vol. iii., p. 10.
[9] Ibid., vol. i., p. 310.
[10] Ibid., Croonian Lectures, vol. iv., p. 204.
[11] Ibid., vol. i., p. 18.
[12] Ibid., vol. iv., pp. 195.
[13] Vol. iii., p. 432-5.

mankind. On the other hand, being a great thinker, he naturally inclined to the deductive method. But the tendency in this direction was not so strong with him as with the purely deductive philosophers. He had not the deductive force of Descartes which could build up a profound philosophy with mathematical precision, and by introspective examination, starting from a single subjective principle, such as "*Cogito, ergo sum*"—"*Ego sum res cogitans.*"

It was not as a logician but as an observer and experimenter that Hunter excelled; it was not the beauty of his logic but the industry with which he collected facts, and the ability and honesty with which he reasoned from them, which made Hunter great. He naturally possessed the special requirements for induction, namely, a desire for knowledge, the love of inquiry, acuteness of observation, ingenuity in devising experiments, and the habit of taking nothing for granted which he could verify for himself. Had it been otherwise John Hunter might have become a deductive pathologist of the Scotch type like the only other great British pathologist of the eighteenth century, the illustrious Scotchman, William Cullen.

If it be true, and I do not think it is, that in Hunter's mind the two philosophic methods were in rivalry or conflict, and that this conflict led occasionally to confusion of thought and obscurity of language, the perplexity arose from the very comprehensiveness of his mind and the grandeur and vastness of its conceptions. If, on the other hand, as I believe was the case, he employed at will both Deduction and Induction but did not succeed in fully coördinating or completely combining the two methods, that was only because, notwithstanding his wonderful genius, he yet fell short of being an absolute monarch of the whole kingdom of the intellect.

# A Clinical Lecture
ON
# PURULENT ENCEPHALITIS.

*Delivered at St. Bartholomew's Hospital on Nov. 23rd, 1908,*

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GENTLEMEN,—The case which forms the foundation of my lecture to-day illustrates a condition which I have chosen to call by the name of purulent encephalitis rather than cerebral abscess because, while there is an abscess in the brain in some of these cases, it is but a part of the disease and bears the same relation to the whole as the small collection of pus in the centre of an area of cellulitis does to the total of that condition. You are all of you familiar with the disproportionate difficulties which attend the treatment of a diffuse infection of the cellular tissues as compared with those involved in the case of a limited abscess; in the latter the opening and drainage of the focus of pus formation are enough to arrest and bring to a speedy end the morbid process; in the former multiple incisions will often afford but inadequate relief, the infection of the tissues progresses, and it may only be after a perilous illness and the loss of much tissue by necrosis that the patient recovers. The risk in this class of case is of spreading infection and of the victory of the invading micro-organisms over the resistance of the patient. Now in septic infections of the brain we meet with two similar classes of cases; on the one hand we are called upon to deal with localised and clearly delimited abscesses, a condition necessarily of grave risk to the patient, but one which, if the lesion be correctly diagnosed and a suitable operation be performed in good time, leaves a relatively good chance for the patient's recovery; on the other we meet with conditions of diffuse infection which may or may not be accompanied by the formation of pus, but in which the opening of a collection of pus, if such be present, affords but a slight degree of relief and in many cases seems to have little or no ultimate effect on the fate of the patient. The problem, as in all cases of spreading infection, is to give such efficient drainage as to enable the process to be cut short. It may be that in the future we shall have at our disposal methods of immunisation which may be of service even in these cases, but their development is so rapid and their end so imminent that probably we shall always have to rely on the promptitude and boldness of our surgical methods if we are to give the patient the best chance of recovery.

A boy, aged 17 years, was brought to the hospital in a cab on Sept. 18th last after an illness which in its latest phase had lasted five days. During this period there had been intense headache which, while it was diffuse throughout the head, was said to be worse over the left side. During the last four days he had been remarked to be drowsy and had had several cold shivers followed by profuse sweats. He had not been sick; there had been no complaint of vertigo or of noise in the head. He had had bilateral otorrhœa for at least two years and inquiry showed that he had been to some degree ill for five or six weeks, with headaches occurring frequently during this period. His general appearance was one of intense illness, with that distressed aspect which so often goes with serious intracranial conditions. His general nutrition was good and his illness was obviously not of long standing. He complained constantly of the pain in his head. Local examination of the ears showed that there had been long-standing suppuration on both sides; the membranes were almost entirely destroyed; in each ear the promontory was sparsely covered by unhealthy stunted granulations; in each meatus there was a small quantity of greyish-yellow offensive pus; there was no swelling of the meatal walls. There was no redness or œdema of the mastoid process on either side. On the right side pressure could be firmly made on the mastoid without eliciting complaint; on the left there was some tenderness on firm pressure and throbbing pain after the finger was removed, and he complained of a sensation of yielding in the bone under pressure. There were no ocular palsies or nystagmus, no paralysis of the face, and no retraction of the head. The eye-grounds showed slight congestion of both discs, but there was no optic neuritis. In the neck there was some enlargement of the lymphatic glands along the upper part of the internal jugular on each side, but they were not tender and their outlines were clearly marked. There was no stiffness of the muscles of the back of the neck. The knee-jerks were equal and of normal activity. He could walk slowly but preferred to be guided. The tongue was thickly coated. The temperature was 100° F. The pulse-rate was 85, the beat being regular, of good volume, and not dicrotic. The respirations were 24 to the minute and very shallow. His mental condition was very suggestive, cerebration being slow but clear, without any difficulty in the use of words. A blood count made immediately after admission showed a leucocytosis of 21,000 per cubic millimetre. He was admitted with the diagnosis of suppuration in the left temporo-sphenoidal lobe.

The diagnosis was made on the following grounds. The extreme pain in the head, the mental dulness, and the general illness of the patient made it certain that we had to deal with some serious intracranial condition. It was possible that this might be in the lateral sinus, in the meninges, or in the brain itself. Against the sinus as the site of the trouble was the relatively low temperature, the absence of acute tenderness behind the ear, and especially the absence of any acute lymphatic inflammation in the neck. The great headache might have been explained by a diffuse purulent meningitis but in this case the temperature should have been higher, there would typically have been at this stage more irritability and a more rapid cerebration, and the patient would have been even more violently ill. On the other hand, the supposition of a suppurative inflammation of the temporo-sphenoidal lobe with more or less diffuse encephalitis surrounding it would explain every feature of the condition. In such circumstances we have, as in this case, a mixed picture of cerebral compression with the features of an ordinary septic illness. There is elevation of temperature which may be much more marked than in this instance and along with this some quickening of the pulse; the pulse-rate is, however, not as a rule raised to the degree which might be expected from the general condition. The commencement of cerebral compression was evidenced by the slowing of the mental processes, but compression was clearly not at this time grave, for the pulse was yet of good tension, not markedly slowed in relation to the temperature, and there was no stupor. Had the condition, on the other hand, been one of localised encapsulated abscess we might have expected a clinical picture in which the main features would have been headache, stupor, slowed pulse and

respiration, and a subnormal temperature. It should be remembered that in the abscess of otitic origin there is often no suggestion of localising signs. Hardly any other condition except that of diffuse cortical meningitis is accompanied by headache of such intensity as that of encephalitis. Had we been in the presence of a cerebellar abscess the mental condition would probably have been normal, while the effects on the respiratory centre and pulse would have been more marked. In addition there would almost certainly have been some retraction of the head.

Some of you will have noticed that there was a clear history of rigor on more than one occasion before the patient was seen at the hospital and may have wondered that no remark had been made about them in my account of the grounds on which the diagnosis was arrived at. The omission has been a calculated one, in order that I may impress you with the relative importance of the symptom in the intracranial diseases arising from suppuration in the ear. A rigor is the expression of the response of the tissues to a large and sudden dose of toxins; it may occur in such various conditions as the retention of septic material in the tympanum, in suppuration in the mastoid, quite frequently in extradural abscess, in acute septic conditions of the brain and meninges, as well as in cases of lateral sinus thrombosis. It is just because of the undue prominence given to the last in most of the books that I neglected to lay any stress on this feature of the case. A rigor, and still more a repetition of rigors, in an ear case is always to be regarded as a most grave symptom calling for the immediate relief of the process of septic absorption which it indicates, but it will rarely give any indication of the site at which that absorption is taking place. In the present case, in spite of the history of rigors, there was never any doubt in my mind that the sinus was not the cause of the symptom. An illustration of the converse, the occurrence of thrombosis of the lateral sinus with no rigor, in which in spite of this the diagnosis was made with a degree of assurance before operation, is afforded by a little girl at present in Abernethy ward under my care, who, I am glad to say, appears to be on the high road to recovery.

Having made the diagnosis of the condition the determination of the side was a matter of some difficulty and necessarily of speculation. In the symptoms caused by the intracranial condition there was little to point to one side rather than the other; fortunately the localised tenderness on the left side gave the preference for an exploration there. It was not to be supposed that it was directly connected with any cerebral condition, but it was evidence of some active inflammation in proximity with the bone on that side, and there is an initial improbability that both sides were simultaneously in what may be called a state of eruption. In the condition of the ears themselves there was nothing to influence choice. The actual cause of the tenderness on the left side was revealed at the time of operation in the existence of extradural suppuration on that side. Had exploration on the left side been fruitless an immediate operation on the right would have been necessary.

The diagnosis being made, no valuable time should be wasted in delay, and an operation was proceeded with as soon as the patient could be got ready. In all operations for intracranial complications of suppurative otitis media an essential part of the procedure is the performance of a radical mastoid operation. If the primary source of the trouble is left, even if the immediate complication is successfully dealt with, it is actually possible that the patient should die from a fresh complication during his recovery from the first, an event which it was my ill-fortune to see some years ago elsewhere. In addition there is no question that the route through the mastoid is both the most direct and the most convenient for the treatment of the intracranial conditions resulting from otitis media. Accordingly the operation in the present case was conducted on the outlines of a radical operation. During the stage of approach of the antrum the presence of softened bone led me upwards through the tegmen to a large extradural abscess situated in the middle cranial fossa, the cause of the tenderness on pressure which I promised you the operation would reveal. After the surrounding bone was removed sufficiently to allow of the exposure of the whole of the area of the dura mater which formed the inner wall of the abscess, it was seen that the central part of this was thickened and covered with a layer of necrotic lymph and pallid granulations. The middle of this patch pouted somewhat downwards and a director was easily passed through this point, the opening of a fistula leading into the substance of the brain, into the temporo-sphenoidal lobe. A small amount of thin smelly pus issued along the director. The dura mater was incised to allow of free access to the interior of the brain and a drainage-tube was inserted along the director; the radical operation was then completed.

As regards the pathological anatomy, the case was thus a typical one, showing a continuous track of infection from the tympano-antral cavity upwards through the bone, the formation of an extradural abscess, the penetration of the dura mater by the infection, the soldering of the meninges, so that the brain was adherent to the dura mater, and the direct extension of infection to the interior of the brain. It is the rule that in temporo-sphenoidal abscess secondary to suppurative otitis media there is a direct continuity of infection in the brain with that in the middle ear on the lower aspect of the abscess. Only on the outer side is the abscess entirely subcortical. The small quantity of pus found and the badly defined limits of the abscess cavity made it evident that the collection of pus was but a small part of the infective lesion present. Nevertheless, the immediate result of the operation was good. The headache was relieved and the patient's mental condition became much more alert. The temperature, however, rose to 102° and the pulse-rate remained at 85, good evidence that neither the septic absorption nor the compression of the brain was really relieved. A considerable amount of pus escaped from the interior of the brain, especially when dressings were carried out, and after each complete dressing it was noticed that the symptoms were for the time improved. The tissues which had been opened up in the course of the operation were very sloughy and the whole wound smelt badly.

On the evening of Sept. 22nd the patient's condition changed for the worse; the temperature rapidly rose from 98·4° to 104·6° and then fell again. There was no rigor. He became very drowsy but when roused complained of frontal headache. The pupils were equal and moderately dilated; there was no squint or nystagmus. The pulse-rate, when the temperature was 104·6°, was only 80. I wish to draw your attention to the features of his condition at this time, for they exhibited in an even more intense degree than before the combination of a septic condition with increase of intracranial pressure. When such symptoms are developed after a period of improvement in a case of cerebral abscess, the state of that case is very grave and the patient is likely to die very shortly from a spreading cerebral infection, the end being in most cases determined by the penetration of the infection to the cavity of the lateral ventricle. This is an event which inevitably proves fatal, the symptoms being like those of a diffuse purulent meningitis of rapid course. When following on a spreading septic condition of the brain, the actual invasion of the ventricle is not marked by the dramatic features of the sudden rupture of an abscess into this cavity; the temperature continues to rise, the pulse becomes progressively weaker, and the patient, if not already unconscious, sinks into an advancing coma which is not recovered from. In the case of the rupture of a chronic abscess into the ventricle, on the other hand, there is a general convulsion, followed by immediate loss of consciousness which is not recovered; the temperature, which has probably been subnormal, rises suddenly to a high point, and the patient dies with the symptoms of acute compression.

On account of the change in the patient's condition I was called to the hospital immediately, and decided to investigate the condition under an anæsthetic. After some preliminary cleaning up of the inside of the previous operation cavity, the opening up of the aperture leading into the brain showed that the cerebral tissue in the locality was in a state of gangrene. To expose this neighbourhood more effectually incisions were carried both forwards and upwards from the upper end of the original mastoid incision, dividing everything down to the bone; by elevating the tissues, including the temporal muscle, the whole of the outer surface of the squama was exposed and the bone was removed by cutting forceps. Between the whole of the dura mater thus exposed and the squama there was a thin layer of pus and lymph, and the dura mater itself was in the lower part sloughing. A circular piece of the dura mater rather larger than half-a-crown was completely removed, lying above and outside the original opening in the membranes and including the outer edge of this opening. The apparently normal cortex thus exposed lay on the outer aspect of the

sloughing buried area which it was desired to treat, and made its really free exposure impossible except by its removal. Accordingly a large Volkmann's spoon was taken and the brain substance was boldly scooped away until the sloughing tissues were widely exposed and in large part removed. The cavity thus formed, which would at first have held the thicker half of a hen's egg, quickly filled up by the flowing in, as it were, of the semi-fluid brain, so that it was soon almost entirely obliterated. The surface which had been brought to the level of the surrounding cortex was, however, now the deeper surface of the original area of brain infection, which was thus freely exposed and enabled to drain. No attempt to remove the tissues on the deep aspect of the original abscess was made, for it was felt that the risk of opening the lateral ventricle was too great. The brain rose to the level of the margin of the opening in the dura mater but did not protrude through it. The newly exposed surface was almost entirely covered by sloughs, and the brain substance removed had been chiefly in the same condition and stank horribly.

The procedure thus carried out was one which I have contemplated for some time as the only means of affording drainage to these cases of diffuse infection of the brain. Again and again I have seen them improve and later become worse and die, as this patient threatened to die. Somewhat bold measures were therefore felt to be justified, though the destruction of a cortical area which gives so little evidence of its indispensability as that of the lower part of the temporo-sphenoidal lobe is in any case a comparatively small matter in view of the issues at stake. Reliance was placed on the power of the brain to fill up gaps created by the removal of a part of its substance, and it was foreseen that in so doing it must invert the hollow which had been created and bring the lining of the hollow to the surface. No fear was felt with regard to the possibility of the creation of a hernia cerebri; it is only when there is increased intracranial pressure, from inflammation, or from increase of the bulk of the contents of the cranium by some cause, that the protrusion of the brain takes place. Never attempt to restrain the occurrence of a hernia cerebri; seek to remove its cause. Until you have done that, nature is conducting her surgery on the only reasonable lines, and to hinder her is merely to perpetuate the condition of cerebral compression which she is relieving. No patient ever died from a hernia of the brain, but many have died for want of one.

Until you have tried to drain effectively so soft a tissue as that of the brain it will perhaps not occur to you that the process is one of virtual impossibility by the use of tubes in the ordinary fashion. The elastic pressure of the surrounding brain forces the yielding brain substance into the holes at the end and sides of the tube and effectually plugs them, so that the only surface kept free for drainage consists after a few hours of these small protruding and partially strangulated masses within the openings. Fortunately in the encapsulated type of brain abscess there is practically no surrounding zone of inflammation, and all that is needed is to maintain a track of sufficient size leading into the cavity of the opened abscess. On the other hand, by means of the removal of the overlying brain in the way described, a large surface was rendered free, drainage from it was absolutely unimpeded, and sloughs could be freely shed.

Though the operation had been a severe one, involving the removal of a large area of bone and considerable interference with the brain, there was practically no shock observable and the pulse was much improved in quality. There was immediate relief of the headache and appetite again became good. The temperature, which had fallen to 100·2° after the operation, rose the next morning to 102·4°, and then fell by lysis during the following 48 hours to normal. On one or two occasions subsequently the symptoms of compression showed some return but were relieved by the evacuation of small collections of pus from beneath the sloughs on the surface of the brain or lying between the dura mater and the edge of the bone. Three days after the second operation the patient was sitting up and reading the paper. The separation of sloughs was encouraged by fomentations, a method of dressing which is often of great value in the after-treatment of cases of cerebral abscess. Three weeks after the second operation a plastic operation was carried out by Mr. Sydney Scott in my absence to close the widely open wound behind and above the ear with complete success. On Nov. 3rd convalescence was so far advanced that the patient was sent to Swanley. His mental condition apparently left nothing to be desired, and the cavity of the radical mastoid operation was then rapidly becoming dry. There is, of course, a considerable area over which the brain is adherent directly to the scar surface within the mastoid cavity; in spite of the possibility of trouble arising from such adhesions I have never seen it in these cases of temporo-sphenoidal abscess, possibly because the motor areas are not involved; in this case the conditions are somewhat different, for the cortex over the adherent area has been removed and the adhesion is between the white substance and the scar. It remains to be seen, of course, whether he will develop any symptoms from the destruction of brain which has taken place, but I have no serious apprehensions on this score.

## SIMPLE METHODS OF DIAGNOSIS IN DISEASES OF THE STOMACH.[1]

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DURING recent years much work has been done on the chemistry of pathological digestion. Elaborate and accurate methods of analysis of the disordered functions, both chemical and physiological, have been devised. Many of these are not suited for every-day clinical use. There are, however, some very simple methods which can be used by anyone having even a slight knowledge of chemistry to obtain data indispensable for the rational diagnosis and treatment of gastric disorders. This paper is an attempt to describe the simplest possible means of obtaining the necessary information for diagnosis and treatment. All of them are in routine use at the Royal Infirmary, Sheffield, and have been found useful.

The condition of the tongue, dependent as it is on the secretion of saliva, the nature of the food, and the habit of mouth breathing, &c., is of little value as an index to the condition of the gastric mucosa. A mucous pharyngitis is common in cases of mucous gastritis and the treatment of the pharynx will benefit the gastric condition. There are two points of great interest in the examination of the abdomen which have not been emphasised as much as they should be. One of these is the type of abdomen met with in some cases of gastroptosis associated with general visceroptosis. The upper part of the abdomen is very narrow, being, in fact, a "wasp-like" waist. This may be merely the "corset waist," but its associations seem to point to some congenital weakness of the structures. The costal cartilages forming the arch are very loosely joined together, the tenth costal cartilage being in many cases quite loose and floating. The floating tenth rib has been described as a stigma of visceral neurosis (Stiller). In these cases it is very common to find the well-known symptom-complex of general visceroptosis associated with a severe neurasthenia. The narrow waist should always lead to a special investigation for gastroptosis and pyloric spasm. The second point is that the lower border of the stomach may be seen as a faint groove moving down the abdomen on inspiration. When the observer's head is on a level with the abdomen this can be seen even with abdominal walls which are moderately thick. The discovery of visible gastric peristalsis is of great importance as it is diagnostic of pyloric obstruction, whether due to spasm or to organic disease. A succussion splash is of value only (1) when obtainable at a time during which the stomach should be empty; and (2) when obtainable over an area not normally occupied by the stomach.

With regard to inflation of the stomach, this is indicated when there is other evidence of dilatation or of gastroptosis, or when it seems likely to clear up doubts as to the nature of a tumour. It is strongly contra-indicated where there is evidence of ulcer. The best method is to inflate through a tube by means of a good Higginson's syringe. Where there is no assistant the carbon-dioxide method may be used. It is best to give, first, a drachm of tartaric acid dissolved in water (2 ounces), then give the sodium bicarbonate in small quantities in water until the desired degree of inflation is

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produced. When the stomach is inflated we must first notice the level of the upper border of the organ. A slight increase in size of the stomach demonstrated by this method is not of great importance. Far more important is the result of the functional test to be described later.

For rational diagnosis—and treatment—of the various diseases of the stomach, we must know something about the secretions and motor powers of the diseased organ. The importance of examining the secretion of a diseased organ is fully realised by the profession in the case of the kidney. Yet how easy it is to diagnose chronic nephritis with almost absolute certainty without examining the urine. Here we have a number of objective phenomena such as œdema, anæmia, high blood pressure, and retinal symptoms, whilst for a diagnosis of chronic gastritis the only definite objective phenomena on which we can form a diagnosis are such as we gain from the use of the stomach-tube.

There are two chief causes for this neglect of routine chemical and physiological examination of the stomach. One is the idea that there is a great aversion to the use of the stomach-tube on the part of the patient. We have not found this to be the case. In spite of its routine use in all cases of indigestion, whether primary or secondary, we have had no serious objection from any patient. A few words on the advantages to be derived from its use have been sufficient to overcome any fears. The other cause is an exaggerated idea of the difficulty of the chemical analysis. To this it can be replied that the deductions possible from the naked-eye examination of the stomach contents are of the greatest value in diagnosis and that a rough estimate of the acidity can be performed in a few minutes. Testing an accidental vomit is of little value, as the salivation preceding the vomiting must alter the acidity to a large degree. Again, the passage of the stomach-tube six hours after a test meal in order to test the motor powers of the stomach is of the utmost importance if we are going to diagnose pyloric obstruction (often due to cancer) at a time sufficiently early for operation to be available. The surgeon thinks very little of passing a catheter in order to measure residual urine in case of urethral obstruction, and this notwithstanding the increased risk of sepsis and of catheter fever. Why should anybody neglect the passage of the stomach-tube which is so much safer and easier?

The following is a convenient scheme for the testing of the gastric functions. The patient has a light supper on going to bed. The tube is passed first thing next morning. The contents of the fasting stomach furnish us with useful data on some points: (*a*) if there is *food* in the stomach we know that there is motor insufficiency; (*b*) if there is much (over 5 ounces) clear green gastric juice without food we know that there is hypersection which may be primary or secondary to ulcer or to dilatation; and (*c*) if on washing out the stomach we find many flakes of mucus which sink in the wash water we can diagnose gastritis.

The next step in the examination is to give a *test breakfast*. A cup of tea and a large slice of bread-and-butter are sufficient for most purposes. After one hour the tube is passed again, the patient being allowed to express the stomach contents. No water is put into the stomach until as much of the contents as possible have been obtained. A pint of water can then be introduced and withdrawn just to see that no large amount has been left behind. The contents are kept and examined as will be described later. In most cases sufficient data for a diagnosis will have been obtained by these measures, but in some cases further tests will be necessary. This is likely to be the case when there is a suspicion of motor insufficiency. The stomach may be strong enough to empty itself during the night and yet may be sufficiently impaired to cause symptoms. When a slight degree of motor insufficiency is suspected, as when there is an excessive quantity returned after the test breakfast, or when there is yeasty fermentation, it is best to give a test dinner. I have used the ordinary hospital dinner and have washed out the stomach six and a half hours later. In all cases where the motor powers were impaired the contents of the stomach exceeded 5 ounces (usually considerably). Most of these cases were confirmed by operation. All cases operated upon were found to have a dilated stomach. As a result of these simple tests we have sufficient data when the history and other symptoms are considered to form a diagnosis with a fair degree of accuracy.

The examination of the stomach contents must be done with special regard to the following points:—

A. *Quantity.*—An abnormally small quantity after the test breakfast, say 1 ounce, indicates that the motility of the stomach is increased. This may be due to (1) a neurosis; more commonly, however, to (2) the irritability caused by an ulcer; or (3) simple hyperchlorhydria; or (4) as a compensatory mechanism in achylia gastrica, where the stomach, unable to perform much digestive work, succeeds in passing it on to the intestines. An abnormally large quantity, 8 ounces or more, is very suggestive of motor insufficiency, whether primary or secondary. The test dinner should be given.

B. Other facts to be noticed in a naked-eye examination are the *presence of large portions of undigested food.* When undigested meat is to be found six and a half hours after a test meal we should suspect some severe lesion of the mucosa such as cancer, or, more rarely, achylia gastrica due to atrophy. When the contents consist of a large quantity of green fluid with a deposit of carbohydrates at the bottom of the vessel we know that there is hypersecretion. When this hypersecretion is due to dilatation from pyloric obstruction we usually find a froth on the top of the fluid due to yeasty fermentation. Organic acids when present in quantity give rise to a sour disagreeable odour. *Blood* may be recognised in many cases by naked-eye examination alone. It may also be detected when present in very small quantity by Weber's test. *Mucus* intimately mixed with the food and preventing filtration is due to gastritis.

C. Elaborate analyses are indispensable for the study of the physiology of digestion and for original work on the pathology of gastric secretion. For diagnostic purposes, however, very simple methods suffice. For diagnosis we have to rely on the generalisations which have been made from long series of experiments and observations, but as these generalisations are only true within wide limits we should be expending unnecessary time and trouble were we to endeavour to obtain mathematical accuracy when the data we require are needed only for diagnostic purposes.

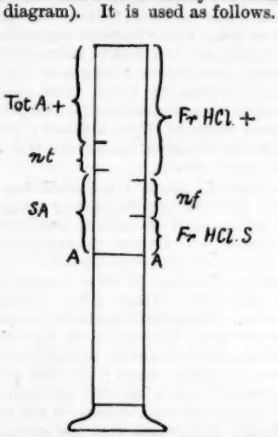
What we require to know about the gastric contents in any given case relates to: (1) the presence or absence of free hydrochloric acid; (2) the amount of free HCl, whether excessive or diminished; (3) the "total acidity" of the gastric contents; (4) in the absence of free HCl, whether lactic acid is present; (5) when the total acidity is very low, whether *pepsin* is present or not; and (6) in some cases a chemical test for blood is necessary. In most cases the first three tests are all that is necessary and they can be performed in a few minutes. The acidity of the stomach contents demands first a few words in explanation; it depends on several factors which may be designated.

1. *Free hydrochloric acid.*—This is hydrochloric acid which is *not* in combination with proteids. We can ascertain whether there is free acid by several tests. (*a*) Gunsberg test with phloroglucin-vanillin is the most accurate test but is troublesome to perform, and the reagent does not keep well, so it is not suitable for ordinary clinical work. (*b*) Boas's resorcin agent; we have had no experience with this. (*c*) Congo red: Congo red papers; on dipping one of these into a fluid containing free HCl it turns a blue colour. The depth of the blue varies from a light bluish red to a blue-black according to the strength of the acid. A gross departure from the normal can be readily recognised by this simple means alone, but for clinical purposes some more accurate quantitative method is required. For quantitative measurements a freshly prepared solution of Congo red is sometimes used as an indicator. As this forms a precipitate with free HCl the exact turning point is often difficult to determine. After considerable experience with Congo solution as an indicator I have given it up in favour of dimethylamidoazobenzene (methyl-orange), which gives approximately the same results. Still the Congo paper is the handiest and most reliable test for the presence of free HCl and I always use it as a preliminary. It is often stated that Congo red reacts to free organic acids as well as to mineral acids. This is quite true, but it only reacts to organic acids when they are in a stronger concentration than we ever find in the human body, so that practically the test is quite applicable. (*d*) Dimethylamidoazobenzene. This reagent is best kept in an alcoholic solution. A drop of the fluid added to a solution containing free HCl turns red. When the free HCl is neutralised by caustic soda solution the solution turns yellow. This reaction is the simplest method for quantitatively determining the amount of free HCl.

2. *Combined HCl.*—The second factor in producing the acidity is the hydrochloric acid combined with the proteids as "albumin chlorides." HCl in this "bound" form will still react with phenol-phthalein as an indicator, although it will not react with Congo red, dimethylamidoazobenzene, and the other colour reagents for free acids.

3. *Acid salts and organic acids.*—Other factors in the production of the acidity are the acid phosphates and the organic acids. They are always small in amount when free HCl is present.

We now turn to the best, which for our purpose of diagnosis only is the simplest method of determining the presence ot free HCl, its amount, and measuring the total acidity. The contents are filtered through a quilted filter paper and the filtrate is tested with Congo paper for free acid. If free acid is present this is measured by titrating with decinormal sodium hydroxide solution, using dimethylamidoazobenzene as indicator. Take 10 cubic centimetres of the filtrate, add one drop of the indicator, which will turn the solution a bright red, then add $\frac{n}{10}$ NaOH solution from a burette till the red has just changed to yellow. Normally 10 cubic centimetres should need from 2-4 cubic centimetres $\frac{n}{10}$ NaOH. The strength is usually referred to in terms of the number of cubic centimetres of $\frac{n}{10}$ NaOH necessary to neutralise 100 cubic centimetres of gastric juice. Thus if we found 10 cubic centimetres needed 6·7 cubic centimetres $\frac{n}{10}$ NaOH, we should say that free HCl = 67. To determine the total acidity add one drop of phenol-phthalein solution to the same contents and go on adding $\frac{n}{10}$ NaOH solution till the red colour due to the phenol-phthalein appears. This should normally occur when 5-7·5 cubic centimetres have been added. The total acidity is expressed in the same way as the free HCl value. As, for practical purposes, all we wish to know is whether the free HCl and total acidity are normal, subnormal, or excessive, the above process may be simplified. For this purpose, at my suggestion, Messrs. Burroughs, Wellcome, and Co. have made a graduated tube which enables the reaction to be performed in two minutes with sufficient accuracy for ordinary clinical purposes (*vide* diagram). It is used as follows. Fill to the




A is the point up to which the tube is to be filled with the filtered contents of the stomach. Tot. A. + = excessive total acidity. n.t. = normal limits of total acidity. S.A. = subacidity. Fr.HCl.+ = free excessive HCl. n.f. = normal limits of free HCl. Fr.HCl.S. = free subnormal HCl.

mark "A" with filtrate from gastric contents, add a small drop of indicator (for convenience the phenol-phthalein and dimethylamidoazobenzene can be mixed together in equal parts and will keep for several months in one solution), then add drop by drop $\frac{n}{10}$ NaOH solution till the red colour has disappeared (the tube should be shaken from time to time by putting the thumb over the end and inverting). The marks on the tube show at a glance whether the level of the fluid row corresponds to a normal, subnormal, or excessive value for free HCl. The $\frac{n}{10}$ NaOH solution is again added drop by drop till the red colour of the phenol-phthalein appears. The level of the fluid now shows the value for the total acidity.

When there is free HCl it is of no use testing for lactic acid. When there is a normal value for the total acidity lactic acid is rarely present, but when there is no free HCl and the total acidity is low it is imperative to test for lactic acid. The presence of lactic acid denotes that there is sub-acidity combined with stasis due either to pyloric obstruction or fermentation occurring in the interstices of an ulcerating growth. As these two factors occur together in carcinoma and rarely in other diseases we see at once the importance of determining the presence of lactic acid. It is also important to know that small quantities of lactic acid occur in the food of an ordinary test meal, so that very delicate tests for lactic acid are only a confusing refinement. A well-marked reaction with Uffelmann's reagent is necessary before we can draw any deductions. This test is described in all the text-books.

To test for pepsin, which is only necessary when the "total acidity" value is very low, the simplest way is to take a small disc of albumin from a hard-boiled egg, put it into some of the filtrate, and add sufficient HCl to produce a blue colour with Congo paper. Keep this in a warm place for a few hours. A control experiment with some normal juice is advisable. The test for blood, which can also be used for the examination of the fæces, especially in suspected duodenal ulcer, is known as "Weber's test for occult blood." It is performed by adding glacial acetic acid and ether to the fæces and shaking up well, and then testing the ethereal extract with the guaicum reaction. The constant presence of occult blood in every stool is suggestive of cancer of the alimentary tract, the occasional presence suggests ulcer. Half-cooked meat must not be eaten for some days before the test is performed. The microscopical examination of the stomach contents is of little importance. The presence of the characteristic long Oppler-Boas bacillus is almost diagnostic of carcinoma. Yeast cells are most commonly found in benign stenosis of the pylorus with excess of acid.

We now come to a consideration of the diagnosis of the different lesions of the stomach with the means at our disposal.

*Hypersecretion* forms a striking clinical picture. The diagnostic feature of the condition is the vomiting of large quantities of acid gastric juice, greenish blue in colour and containing an excessive amount of acid. It can be diagnosed by finding a large amount of fluid in the stomach in the early morning, usually in spite of the fact that large amounts have been vomited during the night. There is an acute or intermittent form, usually diagnosed as a bilious attack and associated with headache. Another form is the continuous one, Reichmann's disease. Before diagnosing this disease it is necessary to exclude two conditions in which continuous hypersecretion occurs as a secondary disturbance. They are (1) ulcer and (2) dilatation from benign stenosis.

*Hyperchlorhydria* is a more common condition. The chief features are the character of the pain (heartburn) which comes on at the height of digestion and is relieved by taking more food. The diagnosis of the condition is clinched by testing the contents after a test breakfast. As it may be an accompaniment of ulcer or dilatation these conditions must be excluded before letting the diagnosis of hyperchlorhydria stand alone.

*Acute gastritis* has chiefly to be separated from abdominal catastrophes requiring surgical treatment. Its features are well known, and giving a test meal would be the refinement of cruelty.

*Chronic gastritis.*—The diagnostic feature of gastritis is the finding of mucus in the wash water after early morning lavage. These flakes of mucus sink to the bottom. The balls of mucus floating about on the top are either saliva or sputum which has been swallowed. After a test meal we find the food badly digested, intimately mixed with mucus which interferes with filtration. There is nearly always a diminution in the free acid and often complete absence of free HCl. The total acidity value is diminished. Even when the acidity is much diminished we do not find lactic acid, because the motor powers are normal. The variety

known as acid gastritis where there are raised values for acid is very rare, and the values are never very high. It is diagnosed by the presence of mucus. Atrophic gastritis cannot in many cases be diagnosed from the next disease.

*Achylia gastrica.*—In this condition (which may be found accidentally) there may be very few subjective symptoms. There is practically no acid (combined) in the contents after a meal (under 12). There is no pepsin or rennet. The condition may be secondary to a chronic gastritis or be apparently a neurosis or a permanent condition. There may be no gastric symptoms. This is due to the fact that the stomach may be able to force on the food into the intestines which can do the work of both organs. This compensation can break down in two ways: (1) the motor powers may fail, or (2) a chronic enteritis may be set up. This has for its chief features a chronic obstinate diarrhœa, with mucus and much undigested food in the fæces, and usually marked indicanuria. In such cases of enteritis the stomach should be carefully examined as to its secretory powers.

*Malpositions of the stomach* must be demonstrated by inflation, care being taken not to mistake gastroptosis for gastrectasis. The upper border of the stomach must be defined.

Every case in which *motor insufficiency* is suspected should be tested with the stomach tube. This not only prevents gastroptosis and gastromegaly from being confused with gastrectasis, but also supplies data for the diagnosis of the cause. The tube should be passed the first thing in the morning and again seven hours after a test meal. The acidity should also be tested. The degree of insufficiency can be determined by the quantity of residue found. The varieties of motor insufficiency with their characteristic phenomena may be classed as follows. A. Relative insufficiency where the muscularis though hypertrophied is unable to force the contents through an obstruction of the pylorus. The diagnostic features are: (1) excessive peristalsis after a meal, and (2) tumour at the pylorus. The congenital pyloric obstruction of infants is of this nature. In adults we meet with two causes: 1. Benign stenosis, scars, bands, kinking, &c. These are mostly accompanied by hypersecretion with excess of free acid and of total acidity, yeasty fermentation; the residue after a test meal consists of carbohydrates (starch). 2. Malignant disease where there is usually absence of free HCl, diminished total acidity, lactic acid fermentation with the Oppler-Boas bacilli. There are also seen pieces of undigested meat. B. Primary motor insufficiency, due to disease of muscularis, functional loss of motor power due to overloading, nervous causes, operation shock, &c., is rare. The acidity will vary with the cause of the condition. Copious vomiting after an operation is a suggestive sign of acute dilatation.

The diagnosis of *ulcer* has now gained great importance owing to the increasing frequency of surgical interference. The history is of the greatest importance, noteworthy points being the acute character of the pain—localised in one spot in the epigastrium and accompanied by local superficial tenderness, coming on from a half to one hour after meals, relieved by vomiting. The vomiting is usually small in quantity. Hæmatemesis if present with these symptoms clinches the diagnosis. No one can doubt Dr. Hale White's conclusion about "gastrorrhaxis" when one sees occasional cases of severe hæmatemesis come into hospital and rapidly recover without any other symptom of ulcer. A test breakfast should not be given until 14 days after hæmatemesis. Hyperacidity is found in many cases of ulcer, but numerous cases have been recorded where there was diminished acidity. I have seen a case of perforated gastric ulcer where an examination made after recovery showed no free HCl and total acidity = 4.

Localised tenderness over a small area is a very valuable sign. It may exist either in the epigastrium or the back. General tenderness over the whole stomach is not of much value in diagnosis. It most commonly occurs in neurotic states and is not to be relied on as a point in the diagnosis of ulcer. Most of the cases I have seen have been put on to a liberal diet with good results. Weber's test for occult blood in the fæces is very useful. It should be performed with every stool for at least six days. When positive it at once removes the case from the group of neurotic dyspepsias. It is to be remembered that the blood soon disappears in most cases under suitable treatment. It is said by some German and American authors to be constantly present in ulcer cases before treatment, but we had one case which was examined for it on six consecutive days with negative results, yet operation showed a very large ulcer.

The diagnosis of *carcinoma* may be very easy or very difficult and often impossible to the physician who, in view of the recent advances of gastric surgery, must be ready to recognise his impotence. The cases with tumour, wasting, absence of HCl, and presence of lactic acid when the stomach contents after a test meal consist of almost undigested masses of meat and other food are easy to diagnose but the diagnosis is unavailing. The strictly medical means for the early diagnosis of cancer are very feeble. Weber's test for occult blood in the fæces may be useful here. It is said that when occult blood persists in every stool in spite of treatment of gastric ulcer carcinomatous change is present but this has been denied. Early cancer may be present without occult blood as I have seen in one case (see note at end of paper).

Disappointing as are the ultimate results of partial gastrectomy, yet as medical treatment is absolutely useless as regards a cure, it behoves the physician to call in a surgeon in such cases as these. 1. Where there is diminished acidity combined with motor insufficiency. As most cases of pyloric stenosis of benign origin are accompanied by excessive acidity, the diminution of acidity in these cases is of much greater import than in cases where the motor powers are normal. 2. Where a middle-aged person *begins* to suffer from indigestion with anorexia and possibly to lose weight, and on testing the stomach contents diminished acidity is found. As so many of these cases are due to the insidious onset of cancer an exploratory operation is quite justifiable and will doubtless save a few and prolong many lives. 3. All cases of long-standing ulcer where wasting is progressive; where there is rigidity of the right rectus or where occult blood persists in the stools. 4. All cases of pyloric tumour whether palpable or only inferred from the presence of exaggerated peristalsis. We had one such case where five competent observers had palpated for such a tumour and felt nothing, and yet at operation a tumour of the size of an orange was found drawn up under the liver.

*Nervous dyspepsia.*—It is quite impossible to give cut-and-dried rules for the diagnosis of this condition. A necessary preliminary in all cases is a careful physical and chemical examination. The only abnormalities likely to be found are visceroptosis and pyloric spasm by the physical examination and hyperchlorhydria by the other. Whether visceroptosis removes the case from the category of nervous dyspepsia is merely an academic question. From the point of view of practice it does not. Other features suggestive of a neurotic origin of dyspepsia are the lack of relation between the pain and meal times, the sudden changes in the symptoms, the good general nutrition of many cases, and the nervous symptoms apart from the stomach. In young women the diagnosis from ulcer is often difficult; reliance may be placed on strictly localised tenderness and the presence of occult blood in the stools.

Whilst revising the above a reference has come to hand about a new method of diagnosing gastric carcinoma[2] which is of the greatest theoretical importance. Attempts have been made by several investigators to diagnose cancer by means of the "precipitive" reactions. They have all failed because it was impossible to get the "cancer albumin" free from other normal albumins of the animal body. Maragliano has tried to solve the question in an ingenious way. According to him there are in the morning washings of a cancerous stomach at least four series of albumins: (1) blood serum; (2) the albumin from a granulating wound; (3) a specific albumin of the gastric epithelium; and (4) albumin specific to the neoplasm. Thus, when an animal is immunised with the stomach washings its serum will precipitate with any of these albumins which may be present. Maragliano gets over the difficulty of separating them by immunising two animals, one with albumins 1, 2, and 3, the other with all the four. He then takes the washings from a suspected stomach, precipitates 1, 2, and 3 by means of the serum of the first animal, and then tests for the cancer albumin with the serum of the second animal. He claims to have obtained positive results in 17 cases of gastric cancer, whilst the controls were negative. These results, if confirmed, seem to open the way not only for diagnosis but even for attempts at the production of antibodies.

**Sheffield.**

[2] Centralblatt für Bakteriologie, Band xl., p. 675.

# A CASE OF SHIP BERI-BERI ASSOCIATED WITH AN ERYTHEMATOUS ERUPTION.

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CASES of beri-beri are by no means uncommon in Glasgow, and, indeed, during part of the time when the subject of this narrative was under my care there were three other cases in my clinique. Some of these patients are Lascars who have acquired the disease in India or on vessels in which they have been sailing between Britain and India. Others are seamen who have landed after long voyages on sailing vessels; they may have come, for instance, from New Caledonia, bringing nickel ore to the Clyde to be smelted at Kirkintilloch, six miles from Glasgow. The patient in the present case, however, did not belong to either of these categories. He was a native of Iceland, aged 27 years, who was employed on a trawler, and who had been at sea since he was 14 years old. From November, 1906, to May, 1907, he was fishing off the coast of Morocco, but he never landed there or at Gibraltar, though he landed at Oporto, Lisbon, and Havre. More recently he was fishing off the West Coast of Scotland and the north of Ireland. He enjoyed excellent health until the end of August, 1907, when his hands became red and swollen. After three days there was swelling of the legs, with pains in the calves, but without redness at that time. The swelling spread from the hands upwards and about five days after the commencement of the attack he noticed that his face was red and swollen. After the swelling was fairly developed there were repeated attacks of chilliness up to the time of admission, but there was no shivering at the onset. There were some depression and restlessness and there was slight aching in the limbs in association with the swelling; but there was no acute pain, numbness, tingling, or burning, though there was troublesome headache. The patient was admitted to the Glasgow Royal Infirmary on Sept. 3rd, 1907, eight days after the onset.

Regarding the past history of the case the patient did not remember to have ever been laid up with illness except that he might have been for a day or two in bed with a bad "cold" in his boyhood. He denied any venereal infection and there was no evidence of urethritis or of venereal ulcer or scar. He had been getting a varied diet, including beef (fresh and salted), vegetables (cabbage and potatoes), rice in moderate quantity, tea, bread, butter and fresh fish (haddock, hake, herring, plaice, and halibut). He was a total abstainer but he smoked five ounces or more of tobacco weekly. He had never seen any similar ailment before either in his own boat or about the port of Aberdeen where his headquarters were. He said that the cabin of the trawler was roomy. Further investigation threw no additional light on the etiology. He never had had sore throats except when he had had a "cold," and in any case he had none for a long time before his present illness. The exposure connected with his occupation had not been greater of late than it had been for many years. He said that there was no trouble with fleas or bed-bugs on the boat. He himself was not troubled with fleas or lice and his clothing was very clean when he came to the infirmary. There was no vomiting except after the administration of castor-oil and no history pointing to pharyngitis or gastro-duodenal inflammation was forthcoming. The fauces and the tongue were normal, the teeth were in a satisfactory condition, and there was no lead line on the gums. The patient's parents were dead, but his four brothers and seven sisters were all living and were healthy.

On admission the patient presented the appearance of a strongly built man. On the face and the neck there were swelling and redness which were limited above by an abrupt margin corresponding nearly to the border of the hairy scalp, and below by a line which would nearly correspond to the neck of the jersey. The swollen skin was very firm, so that considerable pressure was required to cause pitting. The redness disappeared on pressure. The forearms and the hands were in a somewhat similar condition, but the œdema was more marked and there was considerable pitting on pressure. On the upper arms, the shoulders, and the back, and over the pectoral muscles, there were irregular patches and spots of erythema, which were raised above the general surface. This redness could be completely removed by pressure. There was no recognisable œdema of the trunk. In the lower limbs, in almost their whole length, there was a diffuse erythema which disappeared on pressure. The reddened area was slightly elevated and there was no pitting on pressure here. Below the knees the skin was roughened and it showed slight branny desquamation. The heart and lungs were normal and no enlargement of the liver or spleen could be recognised. There was slight enlargement of some glands in the axillæ and the groins. There was slight tenderness of muscles in the forearms and the calves.

The temperature reached 102·2° F. on the day of admission and it showed a distinct febrile tendency for nearly a fortnight afterwards. In the beginning of November a slight degree of fever returned and it lasted for about a fortnight. This was associated with a return of the erythematous eruption on the face, the neck, and the limbs, and to a small extent on the back. In some parts it was diffuse, in others patchy. The patient had at times, but not always, a sense of heat in the erythematous parts. These parts were of a dull red colour and the redness did not disappear completely on pressure. There was no soreness of the throat. Until a week before he was dismissed on April 7th the evening temperature would every now and then rise a few points above the normal line. At no time was there any striking disturbance of the pulse, though it was, of course, accelerated when fever was present.

On the day of admission there was a faint trace of albumin in the urine. There was again a faint trace on Sept. 27th. Albumin was more constantly present during a period beginning about the time when the fever and the rash recurred, although even then it usually amounted to a mere trace. In January and during later months it was usually absent.

An examination of the blood on the day of admission gave the following results: red corpuscles, 5,456,000 per cubic millimetre; white corpuscles, 7,200 per cubic millimetre; hæmoglobin, 100 per cent.; and colour index, 0·9. Stained films showed no abnormality. The blood was repeatedly examined bacteriologically and found to be sterile, though, on one occasion, a diplococcus was found. Blood taken from a spot of eruption on the chest proved to be sterile.

Eight days after admission the erythema and œdema had disappeared. A systolic murmur had now been recognisable for some days over the cardiac area generally, but there was no obvious enlargement of the heart and no distress. The conjunctivæ were now congested and photophobia was present. There was pain in the calves and the feet and the nerves in these parts were tender. On Sept. 14th tenderness was noted in the calves, the feet, and the toes, and also in the posterior tibial nerves behind the malleoli; but sensation (touch, pain, temperature) was still acute. On the 23rd it was recorded that there was a good deal of muscular wasting in the legs. There was considerable tenderness in the right calf and slight tenderness in the left. The knee-jerks were present and were sometimes active and sometimes sluggish. There was still some tenderness of nerves in the feet. By the 27th the cardiac murmur had ceased to be audible. The apex beat was in its normal situation. On Oct. 3rd an area of anæsthesia was discovered in the lower part of the right leg. About this time the pains were practically confined to the toes of the right foot and were diminishing.

An electrical examination made by Mr. J. R. Riddell on Oct. 11th showed that muscular contraction was produced by stimulation of nerve-trunks by either current, the response being, however, much diminished in the legs and slightly so in the arms. When the electrode was applied to the muscles of the legs there was no contraction, either to faradism or to galvanism, with the strongest current the patient could bear. On Oct. 12th an extremely short systolic mitral and tricuspid murmur was heard. It was noted that both knee-jerks were decidedly reduced.

On Nov. 11th the following observations were made: "The grasp is very defective in each hand and there is wasting of the small muscles. There is slight defect of movement of the wrist. There is no dropsy in the hands at present and any other vaso-motor phenomenon is difficult to recognise on account of the colour of the skin. Detailed examination of

the right hand shows loss of tactile sensation in the territory of the ulnar nerve on the dorsal surface and this loss extends two-thirds of the way up the forearm. There is very slight impairment of the senses of pain and temperature in the same nerve territory. The sense of posture and the stereognostic sense are preserved. There is slight tenderness of the first interosseous muscle and also of the palm of the hand and of the ring finger. The calves of the legs have a wasted appearance; the girth of the right is 11¼ inches, of the left 11¾ inches. There is slight œdema of the dorsum of each foot. Detailed examination of the right lower limb shows that the senses of pain, touch, and temperature are defective as high up as the knee and on the outer aspect of the thigh. The foot and toes are tender on pressure, the calf slightly so. The movement of the toes is considerably reduced. The knee-jerks are difficult to obtain, though not absolutely lost." The evidence of neuritis was in the main similar in the limbs of the two sides. Repeated blood counts made about this time gave practically normal results. The fundi oculorum were likewise normal.

In the middle of February the patient had so far recovered that he was able to move about a little, but there was still well-marked muscular atrophy, particularly in the right hand; and the legs were still thin and weak. There was still tenderness of the muscles and the nerves, particularly in the right lower limb; and sensation was somewhat defective. There was some faint brown staining in the upper limbs and on the back, representing the old cutaneous eruption.

On March 19th there was still dull-red staining on the back of the trunk, which became brown on pressure. Both knee-jerks were present, though the right was sluggish. The girth of the right calf was 11⅛ inches and of the left 12½ inches.

On April 6th, the day before dismissal, the patient was practically well, but there was still a little tenderness on pressure of the right sole. The knee-jerks were both well marked. The only sensory defect discovered was a reduction of painful sensation in the right leg. There were still slight traces of the rash on the back of the trunk, and there was a little defect in the bulk of the muscles of the left hand.

Three features of this case are worthy of special note: (1) the Scandinavian origin of the patient; (2) the fact that the disease seems to have originated while the patient was sailing off the shores of Great Britain; and (3) the association of an erythematous eruption with the more familiar symptoms of beri-beri.

1. I know of no satisfactory explanation of the frequent occurrence of beri-beri among Scandinavian crews. The theory which has been proposed that the condition is really scurvy with peripheral neuritis is quite untenable in the present case not only because the diet was good but because the usual symptoms of scurvy were absent.

2. The beri-beri of temperate climates is met with chiefly, if not solely, in ships and asylums. It is rare in Europe, but it will be remembered that an outbreak occurred in the Richmond Asylum at Dublin some 15 years ago, and Manson and Daniels state that to their own knowledge the disease has originated in the Port of London among the crews of ships that had been in harbour for several months.[1]

3. The occurrence of this particular kind of erythematous eruption in such close association with the attack of beri-beri seems to be new to the literature. So high an authority as Manson remarks that beri-beri is not accompanied by an eruption.[2] The late Mr. Conolly Norman, however, speaking of the Richmond Asylum cases, said that one patient had a series of herpetic patches which turned into bullæ and left little ulcers behind them, and that three or four cases were ushered in by an eruption which he could not distinguish from erythema nodosum.[3]

When one bears in mind the variety of diseases (including infections such as rheumatism, pneumonia, and polioencephalitis) which may be associated with an eruption of the exudative erythema type it is not surprising that a cutaneous eruption more or less akin to that type should be observed in an occasional case of beri-beri.

Glasgow.

[1] Allbutt and Rolleston: System of Medicine, 1907, vol. ii., Part II., p. 616.

[2] Tropical Diseases, fourth edition, 1907, p. 385.

[3] Brit. Med. Jour., 1893, vol. i., p. 410.

# SOME NOTES ON THE INTERPELVI-ABDOMINAL AMPUTATION, WITH A REPORT OF THREE CASES.

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I AM induced to publish the following notes on the subject of the interpelvi-abdominal amputation and to report the histories of three patients upon whom I performed this operation, partly because I have not been able to find any record of similar cases in British literature, and partly because there are some points of great importance with reference to the operation, regarding which there is some difference of opinion. As a matter of fact, the operation does not appear to have been carried out more than a few times. I can only find references to 21 cases recorded.

The first case to be published seems to have been that of Jaboulay and some of the writers on the subject speak of the operation as "Jaboulay's operation," but actually the first operation of the kind was done by Billroth; his patient died and no report of the operation was ever published, and it is only known of through a verbal communication of Professor Berg, who was present at the operation, to Professor Girard, who recorded the first instance of a patient surviving the operation. In this case Girard made a re-amputation on account of the recurrence of a sarcoma in the pelvic bones following upon a former disarticulation at the hip-joint, the disease originally being in the upper third of the femur.

The indications for the operation are, in the first place, malignant neoplasms, and in the second place, certain infective processes involving the pelvic bones. It will be more satisfactory to speak of the two conditions separately. The only form of malignant growth which is in question is

*Operations for Sarcoma.*

| No. | Date. | Operator. | Result. | Reference. |
|---|---|---|---|---|
| 1 | 1889 or 1891 | Billroth. | Died after a few hours. | Savariaud, Revue de Chirurgie, September, 1902. |
| 2 | 1894 | Jaboulay. | Died next day. | Lyon Médicale, 1894, p. 507. |
| 3 | 1895 | Jaboulay. | Died 36 hours later. | Province Med., 1896. |
| 4 | ? | Jaboulay. | Died 5 days later. | Verbal communication to Professor Girard. |
| 5 | 1894 | Cacciopoli. | Died 3 hours later. | Riforma Medica, 1894. |
| 6 | 1895 | Gayet. | Died 1 hour later. | Province Med., 1894. |
| 7 | 1896 | Girard. | Survived. | Revue de Chirurgie, 1896. |
| 8 | 1897 | Girard. | Survived. | Revue de Chirurgie, 1898. |
| 9 | 1899 | Faure. | Died; operation abandoned. | Savariaud, loc. cit. |
| 10 | 1899 | Freeman. | Survived. | Annals of Surgery. |
| 11 | 1900 | Nanu. | Survived; died 20th day; gangrene. | Revue de Chirurgie, 1900. |
| 12 | 1900 | Salistcheff. | Survived. | Archiv für Klinische Chirurgie, 1900. |
| 13 | 1901 | Savariaud. | Died 2 hours later. | Revue de Chirurgie, 1902. |
| 14 | 1901 | Gallet. | Died 1 hour later. | Annales de la Société Belge de Chirurgie, 1901. |
| 15 | 1902 | Morestin. | Died 9 hours later. | Bulletins et Mémoires de la Société Anatomique de Paris, 1902. |
| 16 | 1903 | Keen and Da Costa. | Died 33 hours later. | International Clinics, vol. iv., Series xiii. |
| 17 | ? | Kadjan. | Died. | Kocher's Operative Surgery, fourth edition. |
| 18 | ? | Kocher. | Died. | Kocher's Operative Surgery, fourth edition. |

*Operations for Tuberculosis.*

| | | | | |
|---|---|---|---|---|
| 19 | 1895 | Girard. | Died 50 minutes later. | Revue de Chirurgie, 1898. |
| 20 | 1897 | Bardenheuer. | Survived. | Verhandlungen der Deutschen Gesellschaft für Chirurgie, 1897. |
| 21 | 1900 | Gallet. | Died 6 hours later. | Journal de Chirurgie, 1901. |

sarcoma, for all carcinomata of bone are secondary tumours in which therefore there can be no hope of eradicating the disease. Of the cases of sarcoma in which the question of this amputation can arise, there are those in which the highest part of the femur is affected and those in which the pelvic bone (usually the ilium) itself is the seat of the disease, or it may be the muscles, fasciæ, &c., in the immediate proximity which are affected. And these structures, bone or soft tissues, may be affected either primarily, or secondarily after a former amputation of the limb for similar disease situated lower down. Of the 21 cases recorded and which are included in the accompanying table of Professor Keen, with two cases added, 18 were operated upon because of sarcoma, and it will be seen that only five patients survived the shock of the amputation.

Nanu's patient lived 20 days and died from sepsis. Each of Girard's patients lived about six months and died in consequence of recurrence of the disease. Both Freeman's and Salistscheff's patients were alive at the date of the reports being made. To these I have to add the following notes of a case in which I made this amputation on account of recurrence of a sarcoma after an amputation of the thigh rather below the level of the small trochanter.

CASE 1.—The patient, a youth aged 18 years, was admitted to the Royal Infirmary, Glasgow, on Nov. 11th, 1906. He had first noticed stiffness at the left knee-joint seven weeks before this date. Later the joint became painful, the pain being felt in the popliteal space. There was no history of injury. There was slight thickening of the lower end of the left femur; the external condyle was rather softer than the internal and the knee-joint had a little fluid in its cavity. The transverse diameter of the condyles was—right, 10 centimetres; and left, 11·5 centimetres. On Nov. 14th amputation below the trochanters was performed, under the impression that the tumour was a central myeloid sarcoma, but dissection showed that it was sub-periosteal. Histologically it was a spindle-cell sarcoma. The wound healed aseptically and the patient went home on Dec. 12th. He remained well until November, 1907, when he began to have some vague pain in the stump. I saw him three weeks before his re-admission but could not discover any sign of a recurrence either in the stump or gluteal region or by rectal examination. I advised him to return in three weeks' time. He did so on Feb. 6th, 1908, when it was found that there was a quite small swelling to be palpated at the origin of the hamstring muscles, and he was readmitted on that date as he was most anxious to have a further operation. It was pointed out to him and his friends that any further operation likely to benefit him was associated with considerable risk but they were all willing to take it.

Examination of the patient failed to reveal any signs of further extension of the disease so on Feb. 12th, with spinal anæsthesia (stovaine), the interpelvi-abdominal amputation was carried out by making anterior and posterior skin flaps. The anterior flap began 1½ inches below the perineo-femoral fold over the adductor brevis muscle, running forwards about 2 inches below Poupart's ligament to the outer aspect of the thigh where it curved upwards to reach the iliac crest from 3 to 4 inches posterior to the anterior superior spine, thence along the crest to the synchondrosis. The origins of the abdominal muscles at the crest were divided, the peritoneum was pushed inwards, and the common iliac artery was divided between two ligatures. The posterior flap was then reflected; the incision for it joined that for the anterior flap about half way between the two iliac spines. The sacro-iliac synchondrosis was separated by dividing the ligaments from the external aspect. The horizontal ramus of the os pubis was divided with bone forceps immediately outside the origin of the left rectus abdominis and the ischial ramus immediately posterior to the attachment of the left crus of the penis. The patient was transfused with two pints of saline solution during the latter part of the operation. The abdominal muscles were sutured to the iliacus and the periosteum of the sacrum. The operation lasted 50 minutes in all. He made a good recovery and went home on March 30th, the wound being quite strong and with no tendency to hernial formation at all.

The patient was brought before a meeting of the Glasgow Medico-Chirurgical Society on May 1st, 1908 (the photograph was taken at this date). (Fig. 1.) On May 6th he had retention of urine. On the 10th the inability to pass urine persisting he had incontinence of fæces and was quite unable to move the right lower limb, and there was anæsthesia up to the fourth dorsal nerve on both sides. The same day a large bulla formed over the sacrum which had till then been quite free from any signs of trophic change. On the 15th a bulla formed on the right external malleolus. No tumour could be palpated and the lungs showed no signs of any secondary deposit. On the 21st a swelling like a large gland was felt in the left iliac region. On the 30th a small thickening was recognised over the lower end of the sternum.

The patient died on July 3rd, a tumour having formed on the ninth rib and another at the region of the symphysis pubis. At the post-mortem examination it was found that both lungs were studded with little nodules of the new growth. There were numerous small nodules along the

FIG. 1.

bodies of the vertebræ and the back of the sternum, and a mass about four inches in diameter in front and to the left of the bladder. On the dura mater of the spinal cord in the uppermost dorsal region there were two nodules causing compression of the cord.

This case makes the sixth survival from the shock of the operation in 19 patients operated upon, a mortality of 68·3 per cent.

Among the surgeons who have performed the operation some have come to the conclusion that the operation is not justified but with this opinion I am not able to agree. I quite recognise that every patient who has a sarcoma of the innominate bone is not suitable for the operation, nor is every patient who has a tumour at the upper extremity of the thigh. It appears to me that before undertaking the operation in any given case the surgeon should have some reasonable expectation of being able to remove the whole of the new growth; and the general condition of the patient must be such as to afford strong presumption of sufficient recuperative force to enable him to withstand the shock of the operation. It is further necessary to make the most thorough and complete examination possible for the purpose of determining whether the disease is local or has spread, a matter often of great difficulty, for the most careful examination will frequently fail to show that the disease has involved other parts. Where these conditions prevail, if a patient has the matter put before him regarding the incurability of the disease except by operation and the serious nature of this procedure, and still elects to have it done, it appears to me to be justifiable even though it may only prolong life for a few months.

Regarding the operation itself there are two points of

some importance. First, as to the extent of the pelvic bone to be removed. Some of the surgeons who have carried out this operation have removed half the innominate bone from synchondrosis to symphysis while others have left the body of the pubic bone after dividing the rami. As the majority of the neoplasms which occur primarily in the innominate bone arise from the ilium it seems unlikely that by leaving that part of the os pubis which gives attachment to the rectus abdominis and the crus of the penis, the patient's chances are diminished, but if at the time of the operation there is any suspicion as to the condition of this portion of the bone it must be removed also.

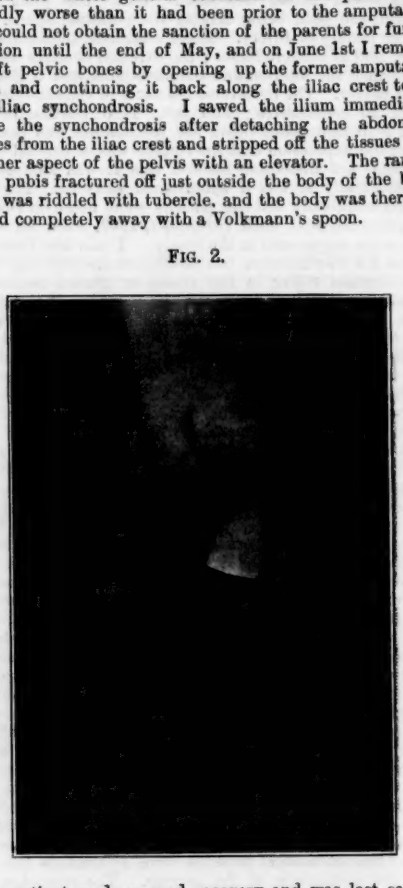
Secondly, there is the question of tying the common iliac artery. The advisability of doing this is uncertain. I tied it in the case of my patient and after doing so, while cutting the anterior flap, made a small nick into the femoral artery a little below Poupart's ligament and I confess that I was surprised at the amount of blood which came away from the femoral through this small wound, as well as at the amount of bleeding that took place from the whole surface of the wound owing to the collateral circulation. Should I ever have occasion to do this operation again I think I would not waste time by exposing the vessel during the early stages of the operation. If left to a later stage, when it would naturally be divided in separating the pelvis from the trunk, the surgeon would be in a better position to decide whether to tie the common iliac artery itself or only its large terminals. It is probable that one would never have time to tie the parietal branches and to save the visceral branches of the internal iliac artery, and in some of the cases operated upon there would not have been any space in which to do this, though if this could be done it would certainly be desirable. The risk, however, of gangrene of the flaps after tying the common iliac, in my opinion, is slight provided the wound is aseptic. The flaps must in most cases be cut as one can best get covering for the wound. It seems that at least seven methods have been adopted and Keen describes six of them, including his own, and gives figures illustrating them. My flaps appear to differ from all those previously described, but they gave an excellent covering to the wound, and as they were of almost equal length their vascular supply was good. They most nearly resemble the flaps employed by Morestin in his case.

Rather different are the conditions under which one would have to do this operation for infections of the pelvic bone. The condition most likely to require the operation is tuberculous invasion of the bone, but it is just possible that actinomycosis might, and it has been recommended that the operation might be undertaken in certain cases of acute pyogenic osteomyelitis, but cases of these latter diseases requiring it must be extremely rare. There are, however, cases of tubercle infecting the innominate bone where the disease is so extensive that disarticulation at the hip even with extensive removal of parts of the pelvic bone at the same operation do not suffice. It is true that in some cases cure can be obtained in this way. In several instances I have disarticulated at the hip and removed the acetabulum and considerable portions of the ilium posterior to it with most satisfactory results, but in others, owing to sepsis, for practically all the cases in which this is necessary are suppurating at the time of operation, or owing to incomplete removal of all the disease, discharge continues and patients run down and die from exhaustion. So that it comes to be a question whether in these infected cases it would not be more advantageous (1) to perform the interpelvi-abdominal amputation at once, or (2) to disarticulate at the hip in the first place and later, at a second operation, to remove the affected half of the pelvis.

Several of the writers have dwelt on this point. It appears to me to be quite certain that a disarticulation at the hip in the first place, along with removal of as much of the diseased pelvis as is possible, to be followed by removal of the pelvic bone at a later date should this prove necessary owing to failure of the former operation to cure, is the best course to pursue. I did this eight years ago in the case of the patient whose notes are appended. A second patient was operated on in a very similar manner two years ago, but he unfortunately succumbed to the shock of the operation.

CASE 2.—The patient, a girl, aged ten years, was seen on Nov. 14th, 1899, with tuberculous disease of the left hip-joint, the thigh being flexed at the hip to almost a right angle. On Nov. 22nd the hip-joint was excised. The joint contained puriform fluid; the cartilage over the head of the femur and acetabulum was found destroyed. The child made good progress for a time but the wound became tuberculous. At the beginning of February, 1900, a profuse diarrhœa commenced; there were no albumin in the urine and no enlargement of the liver. About the middle of February some swelling was found in the left iliac fossa which increased and later fluctuation was detected. The patient was now extremely ill with undoubtedly a diffuse tuberculosis of the left half of the pelvis and I thought that the only possibility of prolonging her life was by removal of the left lower limb and left half of the pelvis, but to do this at the time did not seem likely to be followed by recovery. I proposed, therefore, to amputate the limb and at a later date to remove the left pelvic bones. On March 5th the left limb was amputated at the hip and I gouged away the floor of the acetabulum along with a considerable part of the ilium, opening in this way into a large intrapelvic abscess with extremely fœtid pus. The child's condition improved remarkably after this and the parents became unwilling that anything further should be done in the way of operation. But the improvement was only very temporary; the diarrhœa was as bad as ever by the middle of April. The drainage through the pelvic wall became defective in consequence of granulations blocking the opening and the whole general condition of the patient was decidedly worse than it had been prior to the amputation, but I could not obtain the sanction of the parents for further operation until the end of May, and on June 1st I removed the left pelvic bones by opening up the former amputation wound and continuing it back along the iliac crest to the sacro-iliac synchondrosis. I sawed the ilium immediately outside the synchondrosis after detaching the abdominal muscles from the iliac crest and stripped off the tissues from the inner aspect of the pelvis with an elevator. The rami of the os pubis fractured off just outside the body of the bone, which was riddled with tubercle, and the body was therefore scraped completely away with a Volkmann's spoon.

FIG. 2.



The patient made a good recovery and was last seen on Feb. 29th, 1908, when she was very well, fat, and plump. There was still a small sinus discharging a little pus at the posterior extremity of the wound at the crest of the ilium. No diarrhœa was present. She was photographed on this date (see Fig. 2). A very large mass of new bone has developed in the stump and which projects the soft parts, so that the appearance presented is rather like that of a disarticulation at the hip-joint.

CASE 3.—The patient was first admitted to the Royal

Infirmary, Glasgow, in May, 1902, with an abscess over the left Poupart ligament which was attributed to a strain while working in a coal pit. This was opened and healed soundly. He was readmitted in July, 1904, with a large abscess in the left gluteal region which he had first noticed six weeks before admission. This was opened and he left the hospital in the following October well healed. He was again admitted in May, 1906, with deep sinuses at the sites of former abscesses. The left hip was flexed to a right angle and was fixed. The patient was very emaciated. Exarticulation at the left hip-joint was performed on May 14th. The pelvic bones were found to be extensively affected with tubercle and the acetabulum was bored through and a large abscess was opened inside the pelvis. The patient picked up fairly well and went out on June 28th with the wound not completely healed. I anticipated that it might be necessary to remove the left pelvic bones but thought it advisable to wait a little longer before doing so to see if the drainage through the acetabulum would be sufficient.

The patient did not return until the following October. He was most anxious to have something further done. The scar of the amputation wound was tuberculous throughout and his general condition very poor. On Oct. 22nd the left half of the pelvis was removed by incising along the amputation wound; the pubis was divided outside the origin of the left rectus abdominis. The body of the os pubis was removed with a Volkmann's spoon; the whole of the bone removed was riddled throughout with tubercle. He stood the operation better than I expected he might have done and in the evening seemed to be pretty well, but he collapsed later and died during the night. Nothing abnormal was found at the post-mortem examination in any of the internal organs; there were no amyloid disease and no tuberculous lesion.

I think that in future operations of this nature, where shock is the great danger to be avoided, we shall do best for our patients by the use of spinal anæsthesia rather than by employing a general anæsthetic. I doubt whether my patient with the sarcoma would have got through had he had chloroform or ether. The question of amputating in two stages unfortunately cannot arise in those patients suffering from sarcoma.

Glasgow.

## A HISTORICAL INSTANCE OF THE ADAMS-STOKES SYNDROME DUE TO HEART-BLOCK.[1]

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THE distinguished physician who forms the subject of the present paper had enjoyed during a long life excellent health, excepting that during his youth some suspicion had been aroused by the condition of the lungs which led to his spending a winter in Rome immediately after graduation. In 1899, being then 75 years old, he had a serious attack of influenza, and in the following year he retired from the positions which he occupied and came to reside in Edinburgh. Until his house was ready he lived in one of the suburbs and used to go backwards and forwards by train. In the month of August, 1900, when in the train he was suddenly attacked by unconsciousness and muscular rigidity. He was seen shortly afterwards by Professor John Wyllie and one of us (G. A. G.), and the condition was then found to be one of great prostration. Consciousness had returned but the patient was very dull and listless. The pulse at the wrist was only six per minute, the apex beat being the same, and there were no missed beats. The first sound was quite distinct, and was followed by a clear, ringing second sound, but between these were other feebler sounds (to be referred to later). In the course of a few hours the attack passed off and the pulse returned to its normal rate, between 60 and 70, with complete disappearance of the nervous symptoms. A slight attack occurred in St. Paul's Cathedral, London, in October, 1900, and again in November, 1901, in his own house. A more serious and more prolonged seizure was experienced at Christmas, 1901, after which the normal was again reached. This condition of matters continued until July, 1902, when there was a sudden attack at church, with a pulse-rate of 16 and syncopal symptoms. In February, 1903, another seizure occurred in a tramway car, and on the same afternoon another attack came on in the street. The condition of the pulse during these attacks was not observed as he was not seen by his medical attendant until afterwards. During the same month he went to London and had one or two attacks of syncopal character, but the pulse was not observed to be below 40 at this time. Towards the end of the month he returned to Edinburgh and was found to be very faint; his pulse then was 40. In March there were several attacks and the pulse fell to 32 per minute. During the rest of his life the pulse was never found to be above 34 or below 28; it was almost invariably 32 per minute. From March, 1903, until June, 1907, when he died, there was no syncopal or epileptiform attack. The patient manifested the keenest interest in his own condition and encouraged every inquiry into the nature of his affection. He was seen by many distinguished men from time to time, all of whom expressed their views in regard to the nature of the disease. From first to last there was a good deal of gastro-enteric catarrh, with dilatation of the hollow viscera, and considerable constipation. There never were any renal symptoms and the respiratory organs were wonderfully healthy, with the exception of slight impairment of the percussion sounds at the apices, accompanied by harsh breathing. After the cessation of the attacks of fainting and palpitation there never were any nervous symptoms. The patient slept well and every intellectual faculty was alert to the end of life. The circulatory organs presented features of the greatest interest. There was a distinct cervical venous pulse of the auricular type; the apex beat was slightly further to the left than usual; the impulse was well sustained and perfectly regular, with a usual rate of 32; the arteries were somewhat thickened but not in any way resistant; the condition of arterial pressure will be mentioned later. Percussion of the heart showed some enlargement, there being some dilatation with hypertrophy. On auscultation the first sound was replaced by a loud high-pitched murmur, heard over the whole præcordia and particularly distinct at the apex; the second sound was loud and ringing, especially about the aortic cartilage. Following every second sound, and therefore preceding every systolic murmur, there could always be heard perfectly distinct sounds, usually two in number, which were by no means loud; these were undoubtedly caused by the pulsation of the auricles. Careful comparison of tracings taken from the jugular veins, the brachial and radial arteries, and the cardiac apex amply confirmed this impression, as there were always two, if not three, elevations made by the movements of the cervical veins for each ventricular impulse. It was perfectly clear that at first the case was one of partial or incomplete heart-block, as there was no absolute dissociation of ventricular and auricular movements, the ventricular pulsation being immediately preceded by an auricular impulse, although the interval between auricular and ventricular pulsation was not always exactly the same. In other words, the conductivity varied considerably. At a later period the condition seemed to pass into complete block. It was very interesting to find that the arterial pressure was extremely high during the systolic period, reaching as much as 230 and falling to 75 during the diastolic period. A comparison of all the phenomena with similar cases which have been under our care has shown us that it was a very interesting example of the Adams-Stokes syndrome due to heart-block. The termination came with dramatic suddenness, after the patient had passed through a period free from any disturbing symptoms. At the post-mortem examination, which was expressly ordered by himself, the heart was found to be enlarged, measuring 17 × 12 × 11 cm. The circumference of the heart 2 cm. below the auriculo-ventricular groove was 37·5 cm.; the subepicardial fat was abundant; the cavities were all dilated and hypertrophied; the hypertrophy of the tænia terminalis was well-marked. In the right ventricle there were patchy thickenings of the endocardium; the tricuspid valve showed some fibrous thickening but no calcification; the pulmonary orifice and artery were dilated. The segments of the mitral valve were thickened and

[1] An abstract of a paper read before the Edinburgh Medico-Chirurgical Society on Feb. 3rd, 1909.

calcareous, the basal part of the aortic cusp being particularly affected; the chordæ tendineæ were somewhat thickened but not shrunken, and the fibrous change extended into the apices of the papillary muscles; the endocardium showed patchy thickening, greyish-white fibrous areas being seen on some of the columnæ carneæ. The cusps at the aortic orifice were all thickened but not shrunken or adherent to one another and their basal parts were calcareous; the sinuses of Valsalva were dilated; the aorta was atheromatous, as were also the coronary arteries, their branches in the heart-wall being seen as greyish-white lines.

A portion of the septum of the heart containing the *a.v.* node and *a.v.* bundle was examined microscopically and a similar comparative study was also made of the same region in healthy hearts examined in serial sections. The examination showed that there was a dense fibrous transformation spreading from the aortic cusp of the mitral valve into, and largely replacing, the normal tissue of the *a.v.* node and first part of the bundle. The fibrous tissue was dense and presented irregular areas of calcification, so that the appearances differed very strikingly from those presented by the interlacing network of fibres in the *a.v.* node and first part of the bundle of the healthy heart. The *a.v.* bundle further down, nearer the membranous septum and towards its bifurcation, showed less fibrosis and no calcification, although calcareous deposits were found in the adjacent fibrous tissue. The tissues at the junction of the superior vena cava and right auricle were also examined microscopically. The most important change in this region was found to be a pronounced fatty infiltration. As regards the other organs, we may mention that there were small old fibrous cicatrices in the apices of the lungs, and that the kidneys presented slight evidences of arterio-sclerotic disease.

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## HENOCH'S PURPURA AND INTUSSUSCEPTION.[1]

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A BOY, aged three years, was admitted to Poplar Hospital on Sept. 29th, 1907. The following history was obtained from his mother. He was quite well until Sept. 27th and had been playing about as usual until 4 P.M., when his mother gave him a bath. He then complained of pain in the left leg and his mother noticed that the knee was swollen. The same night the left elbow was swollen. The next morning there was considerable swelling of the scrotum and both legs. No spots were seen on the afternoon of Sept. 28th, but in the evening the mother noticed one or two "purple watery blisters" on the left leg. The left ankle was then so swollen that his sock had to be cut before it could be taken off. The bowels were opened naturally until the 27th. On that day they were opened frequently, the motions being only partly formed. On the morning of the 28th he had one natural motion. He did not complain of abdominal pain until the morning of the 28th, when he was suddenly seized with a paroxysm of pain which made him scream. Similar attacks of pain associated with screaming fits recurred at intervals until his admission to hospital on the following day. Blood and mucus were passed per anum on the evening of the 28th and this was repeated several times during the night. He vomited once in the morning after screaming with pain. There was no history of sore-throat; he had never had scarlet fever or any other illness except measles when he was six months old. There was one other child at home at the time who was quite well.

On admission the temperature was 99·4° F. and the pulse-rate was 140 per minute. The boy looked ill and there were small purpuric patches on the ears, the legs, and the scrotum. The abdomen was slightly distended though not tender, and palpation revealed a sausage-shaped swelling in the right lumbar region. The spleen could not be palpated. On making a rectal examination nothing abnormal was felt, but when the examining finger was withdrawn it was covered with blood. A small motion passed after the child's admission to the hospital was examined and found to consist of blood and mucus only, without a trace of bile. Laparotomy was at once performed. A 2-inch incision was made through the right rectus muscle and an ileo-cæcal intussusception was found. This was reduced without difficulty and the wound was closed with through and through sutures of silkworm gut.

With regard to his subsequent history, on Sept. 30th, the day after the operation, the boy appeared to be much better. He had had a normal motion, the vomiting had ceased, and there was no abdominal pain. The purpura, however, was a little more marked. The patches were of irregular contour though small in size, the majority being not more than half an inch in diameter, but they were beginning to become inflamed and to slough. They were then scattered over the face, the ears, the scrotum, and the legs. On Oct. 2nd diarrhœa set in, and during the 24 hours there were nine motions. There was no vomiting, but the stools contained blood. There was some abdominal pain. By the 3rd the purpura had considerably increased; there were large patches on the face, the hands, and the ears, which were turning black and beginning to form blebs. Small spots had appeared on the legs, the thighs, and the forearms, but there were none on the chest or abdomen. The diarrhœa had ceased and the stools were free from blood, though they were still loose. On the 6th the boy vomited four times and complained of abdominal pain again. On the 7th the purpura was still more pronounced on the face, the hands, and the legs. The right hand was swollen out of recognition; it was black and the fingers were becoming gangrenous. The left hand was swollen and œdematous between the purpuric patches. The abdomen was distended, the laparotomy wound was purpuric and sloughing, and a coil of intestine was seen lying at the bottom of the wound. Vomiting was persistent and the stools were composed of blood and mucus. The abdomen became more and more distended and the presence of free fluid in the peritoneal cavity was demonstrated. The patient died on the 9th. At no time did the vomit contain blood, the urine was free from blood and albumin, and the spleen was not palpable. The temperature varied between 99° and 102·4° F. from Oct. 4th to the 7th and then remained at about 99° until the end.

*Necropsy.*—There was general septic peritonitis. An enteric intussusception was found 18 inches from the ileo-cæcal valve. It was five inches long and irreducible. The spleen and other solid viscera were normal and no submucous hæmorrhages were found in the intestines. Peyer's patches were not enlarged. On laying open the intussusception, the intussusceptum was seen to be intensely congested and thickened towards its apex, but it was not possible to say that the intussusception had been directly caused by a submucous hæmorrhage.

The above case briefly epitomised is as follows. Frequent stools partly formed on Sept. 27th; the same evening there were pain and swelling about the left knee and later about the left elbow. The next morning there were swelling of the scrotum and both legs, and severe paroxysms of abdominal pain, probably due to the formation of the intussusception. In the afternoon what are described as one or two purple watery blisters were seen on the swollen left leg. The following day the intussusception was operated upon and reduced. The purpura increased; there was passage of blood per anum three days later; four days later a second intussusception occurred. Death took place three days later. The case was one of Henoch's purpura, complicated by the presence of two separate intussusceptions occurring at an interval of nine days.

I do not propose to enter into an elaborate consideration of Henoch's purpura; suffice it to say that Henoch[2] in 1874 brought forward a number of cases of purpura which were associated with intestinal colic, vomiting, intestinal hæmorrhage, and frequently painful swelling of the joints. Important articles have since been written by von Dusch and Hoche,[3] Sutherland,[4] and others, showing that Henoch's purpura is a definite clinical entity. Other communications on the subject have been made by Carpenter,[5] Couty,[6] Vierhuff,[7] Osler,[8] and Bristowe,[9] while cases have been

[1] Based on a paper read before the Society for the Study of Disease in Children.

[2] Henoch: Berliner Klinische Wochenschrift, 1874, No. 51.
[3] Von Dusch and Hoche: Paediatrische Arbeiten, 1890, p. 379.
[4] Sutherland: Pediatrics, vol. ii., No. 9, 1896.
[5] Carpenter: Editorial, British Journal of Children's Diseases, January, 1904.
[6] Couty: Gazette Hebdomadaire, 1876, No. 27, p. 424.
[7] Vierhuff: St. Petersburger Medicinische Wochenschrift, 1893, No. 41.
[8] Osler: American Journal of the Medical Sciences, December, 1895.
[9] Bristowe: Medical Times, 1885, vol. i., p. 599.

recorded by Burrows,[10] Silbermann,[11] Raymond Crawfurd,[12] Theodore Fisher,[13] Zimmermann,[14] and others. The object of this paper is to consider Henoch's purpura from a surgical point of view and to discuss chiefly the question of diagnosis. First, the differential diagnosis between Henoch's purpura and intussusception, and secondly the diagnosis of an intussusception occurring during an attack of Henoch's purpura. That there is room for such consideration is proved by the reporting, not only of cases of Henoch's purpura which were operated upon as cases of intussusception when there was no intussusception, but also of cases in which an intussusception occurred during an attack of Henoch's purpura but was not recognised until the patient arrived in the post-mortem room.

At first sight it would appear that the diagnosis of Henoch's purpura presents no great difficulties, and that to anyone acquainted with the disease it should be easy to distinguish between it and intussusception. Unfortunately, this is by no means the case, for, as in Sutherland's[15] first case, the abdominal pain and vomiting may occur some time before the appearance of any cutaneous lesions. Theodore Fisher[16] has described a case of Henoch's purpura which proved fatal, and in which there were no hæmorrhages into the skin. Osler[17] has also pointed out in an article on the Visceral Lesions of the Erythema Group that visceral crises may occur independently of the skin lesions. A purpuric eruption, however, joint pains, hæmaturia, vomiting of blood, or a history of a previous similar attack should remind one that the patient may be suffering from Henoch's purpura. In the absence of all these signs it may also be remembered that whereas Henoch's purpura is rarely met with in children under three years of age, and generally occurs in children several years older than this, the great majority of cases of intussusception occur in babies. Out of 187 cases of intussusception Barnard[18] found that 135, or 72 per cent., were under one year old, and McAdam Eccles[19] obtained a very similar result from a smaller number—viz., out of 40 cases 27, that is 68 per cent., were under one year. Fitzwilliams,[20] again, in 648 cases under the age of 12 years found that 466, or 71·9 per cent., occurred in children not more than 12 months old, and only 6 per cent. between the ages of 7 and 12 years.

The joint pains are as a rule temporary, and pale into insignificance when the abdominal symptoms arise. They are, however, present in a considerable proportion of cases, von Dusch and Hoche finding them in 40 out of 44 cases recorded by them. The character of the onset of the abdominal pain will not materially help the diagnosis, as in both intussusception and Henoch's purpura it is sudden and may be preceded by diarrhœa. I have, however, operated upon two cases of intussusception which were immediately preceded by and apparently caused by a fall on to the abdomen. In both conditions the pain is paroxysmal and extremely severe; between the paroxysms the patient is fairly comfortable, though in the later stages of intussusception the pain becomes more continuous. A slight rise of temperature is not uncommon in Henoch's purpura, but may also be met with in intussusception. Vomiting is not an urgent sign in intussusception until the later stages, and though the child may vomit once or twice at the onset, it usually ceases or is only very occasional until the condition becomes very grave. If severe vomiting is present from the beginning, and especially if the vomit contains blood, the probabilities are against the case being one of intussusception. Harold Burrows[21] is strongly of opinion that his patient had fæcal vomiting before admission to hospital though there was none after admission, and he alludes to another case in which fæcal vomiting is said to have occurred, but we must wait for further evidence on this point before we can draw any conclusions from these two cases.

Tenesmus is an early symptom in intussusception, and frequent tenesmus with the passage of mucus and blood per anum is in favour of intussusception, though tenesmus may occur in Henoch's purpura. Barnard[22] has pointed out a sign which is of considerable value in the diagnosis of acute intussusception in babies; the blood and mucus on the napkin are carefully examined by the naked eye for the presence of bile, and if bile is absent he considers it a proof of the presence of an intussusception. In 37 cases of intussusception at the London Hospital bile was only present on the napkin on one occasion, the sign therefore only failed once. In four cases of acute ileo-colitis which were admitted to the hospital as possibly cases of intussusception, bile was seen on every occasion. Unfortunately, this test does not hold good in older children.

But it is in the local abdominal signs that most interest centres. In Henoch's purpura, as a rule, the abdomen is not tender, but in various cases it has been described as being "distended and resistant" (Sutherland[23]), "extremely tender on pressure" (Theodore Fisher[24]), and as being not distended, but "generally tender and rigid, especially in the lower part" (H. Burrows[25]). In intussusception the abdomen is neither distended nor tender at first, though the intussusception itself is tender and manipulation will cause it to harden and will bring on an attack of pain.

There is yet one more sign to which I wish to allude. It is, I believe, the crucial test, and the one which should be relied upon above all others in making a positive diagnosis of intussusception. I refer to the presence of a tumour. Statements vary as to the frequency with which a tumour can be felt. Rose and Carless[26] say that a tumour can be felt in about half the cases. In McAdam Eccles's[27] 40 cases a tumour was found in 32; that is, in 80 per cent. Barnard[28] says that an abdominal tumour will be found in 75 per cent. of the cases if an anæsthetic is given; and H. S. Clogg[29] found a tumour in 15 out of 16 cases. It is possible, however, that if a careful examination is made by the rectum and abdomen, with an anæsthetic if necessary, a tumour will be found still more frequently. I have operated upon 24 cases of intussusception and in every case I have been able to feel a tumour before operation, either by the rectum or through the abdominal wall. In a few cases, however, it was necessary to anæsthetise the patient before the tumour could be found. The tumour is sausage or kidney shaped and during an attack of pain becomes more definite. It is freely moveable and can often be partially reduced by manipulation through the abdominal wall, slipping from the grasp in a very characteristic way. I know of one case in which hæmorrhage into the mesentery was thought to be an intussusception and have heard of another in which a collection of coagulated blood within the lumen of the gut was similarly misinterpreted. Hæmorrhage into the intestinal wall may produce a tumour which can be palpated, but in most cases it will lack certain features which are characteristic of an intussusception. For instance, it will not have the slight curve which is produced by the drag of the mesentery on the intussusceptum, it will not contract and become more obvious on palpation, nor will it be possible partially to reduce it by manipulation through the abdominal wall.

A very interesting case has been recorded by Greig.[30] The patient was a boy, aged nine years. Six days before his admission to hospital he vomited, and the following day complained of pains in the legs and had some diarrhœa. Two days later he was better, but the left knee was swollen. The following day the abdominal pain and diarrhœa returned and a few purpuric spots were seen on the legs. Two days later he was admitted to the hospital. He was then vomiting small quantities of brownish-yellow offensive fluid. The abdomen was tense and rigid but not distended, the rigidity being most marked below and to the right of the umbilicus. Under chloroform a small firm tumour was felt in the right iliac fossa. It was freely moveable and slipped away from between the fingers. No purpuric spots were observed then. Laparotomy was performed and the tumour was found to be due to great congestion of the lower end of the ileum, which projected like a collar into the cæcum. The abdomen

[10] Burrows: British Journal of Children's Diseases, p. 28, 1904.
[11] Silbermann: Henoch's Festschrift for 1890, quoted by Osler, loc. cit.
[12] Raymond Crawfurd: THE LANCET, Oct. 24th, 1903, p. 1154.
[13] Theodore Fisher: British Journal of Children's Diseases, vol. i., p. 97.
[14] Zimmermann: Archiv der Heilkunde, Band xv., 1874, S. 167.
[15] Loc. cit. [16] Loc. cit. [17] Loc. cit.
[18] Barnard: Allbutt's System of Medicine, vol. iii., p. 792.
[19] McAdam Eccles: St. Bartholomew's Hospital Reports, vol. xxxiii., p. 139.
[20] Fitzwilliams: THE LANCET, March 7th, 1908, p. 709.
[21] Loc. cit.
[22] Barnard: Allbutt's System of Medicine, vol. iii., p. 797.
[23] Loc. cit. [24] Loc. cit. [25] Loc. cit.
[26] Rose and Carless: Manual of Surgery, sixth edition.
[27] Loc. cit.
[28] Barnard: Allbutt's System of Medicine, vol. iii., p. 796.
[29] Clogg: British Journal of Children's Diseases, June, 1908, p. 270.
[30] Greig: Scottish Medical and Surgical Journal, April, 1908.

was closed and the wound healed by first intention Two days after the operation the left side of the face was much swollen and the left eye was almost closed. Later this became discoloured and evidently purpuric. Several days later there was a profuse purpuric eruption on the hands, legs, and body. This case shows how extremely difficult it may be to distinguish between hæmorrhage into a limited portion of the intestine and a very short intussusception. In this case it was only actual inspection and palpation of the gut that determined the diagnosis. The tumour, of course, was a small one, but there can be no doubt that the length of an intussusception may vary greatly from time to time, the intussusceptum not only advancing but also receding to a considerable extent, and possibly spontaneous reduction may take place. This, at any rate, is the explanation usually accepted when the surgeon, after making a diagnosis of intussusception, opens the abdomen and finds no tumour but only congestion of the lower end of the ileum and adjoining part of the cæcum. But, as Dr. G. A. Sutherland asked in the discussion which followed the reading of this paper before the Society for the Study of Disease in Children, may not some of these cases really be examples of Henoch's purpura in which the cutaneous lesions are absent?

So much for the differential diagnosis between Henoch's purpura and intussusception, but it may be necessary to diagnose an intussusception which has occurred during an attack of Henoch's purpura. Sutherland[31] in a valuable paper in *Pediatrics* has recorded an example of this, and Vierhuff[32] has recorded a case of purpura hæmorrhagica in an adult, who developed an intussusception which was ultimately passed per anum. Here again diagnosis must rest on the presence or absence of a tumour. In the case which I have described above there was a definite sausage-shaped tumour, and although the purpura was noticed and the possibility of the hæmorrhage from the bowel being due to Henoch's purpura fully recognised, an intussusception was diagnosed from the presence and character of the tumour. As Sutherland suggests, severe tenesmus if present is also a sign of considerable value.

One other point of interest in my case may be alluded too: the wound showed no signs of healing but became purpuric and ultimately gave way entirely. I have also heard of another case where the child died from hæmorrhage from the wound. On the other hand, it must be admitted that the wound has in other cases healed well by first intention. The occurrence of a second intussusception a few days after the reduction of the first is most unusual. That the intussusception found on post-mortem examination was not merely a recurrence of the original intussusception is proved by the fact that the first one was ileo-cæcal, whereas the second was enteric, and situated 10 inches from the ileo-cæcal valve; also by the facts that the vomiting and pain ceased immediately after the operation, that the bowels were opened, and that the child was free from all signs of intussusception for seven days. Unfortunately, when the second intussusception occurred the child's condition was such that any further operation was out of the question.

In conclusion, there are a certain number of cases in which the diagnosis is extremely difficult. The greatest difficulty is perhaps presented by those cases in which a diagnosis of Henoch's purpura has been made, but it is doubtful whether an intussusception is present or not. The wisest plan to adopt is not to operate unless a definite tumour can be felt. For many of the symptoms of an intussusception—viz., vomiting, tenesmus, blood and mucus in the stools—may be present although there is no intussusception. If, when the diagnosis is made, the skin lesions are extensive, reduction should be attempted by means of injection, and only when this has failed should laparotomy be performed as a last resort. It may be suggested that an exploratory laparotomy is a small matter and should be performed if there is any doubt as to the diagnosis, but the subsequent condition of the wound may be so serious that a laparotomy is not to be lightly undertaken. Intussusception is a rare complication of Henoch's purpura, and further, in the great majority of cases of intussusception a tumour can be palpated; when, therefore, the risks associated with a laparotomy wound are also taken into consideration it seems obvious that if symptoms of intussusception make their appearance during an attack of Henoch's purpura, operation is inadvisable unless a characteristic tumour can be palpated.

I must express my indebtedness to Mr. H. E. Ridewood, late senior house surgeon at the Poplar Hospital, for many of the notes of the case, and also to Mr. Hugh M. Rigby, for whom I was acting when the case was admitted to hospital, for permission to publish it.

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[31] Loc. cit. [32] Loc. cit.

## TORSION OF PEDICLE IN TWO CASES OF FIBRO-MYOMA OF THE BROAD LIGAMENT.

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TORSION of the pedicle of an ovarian tumour is by no means uncommon. Harrison Cripps[1] dealing with 100 consecutive cases records 13 where the pedicle was strangulated. M. Storer,[2] after considering a large number of cases, found that rotation of these tumours occurs in 25 per cent. to 35 per cent., while 8 per cent. to 11 per cent. become actually strangulated. While in most of the cases published the tumour was of a cystic nature, in the two I have to record the condition was more unusual, both being fibro-myomata of the broad ligament and both were admitted to the Radcliffe Infirmary during the same month.

CASE 1.—The patient was a single woman, aged 41 years. She had had indefinite pains in the abdomen for the last eight months. On the day previous to her admission to the hospital she woke up with a headache and shortly vomited, which she continued to do throughout the day. In the evening she had a severe cramp-like pain in the lower part of the abdomen which lasted about two hours. Her condition being the same the next day she was sent to the Radcliffe Infirmary. On admission her temperature was 97° F., her pulse was 82, and her respirations were 24. The abdomen was distended and moving very little; a definite mass was to be felt above Poupart's ligament on the right side; it was smooth and oval, rising out of the pelvis, moveable and tender. Per vaginam a very tender swelling could be felt, lying behind the uterus, which seemed to be connected with the abdominal tumour. On the next day it was found that the abdominal tumour had changed its position from the right inguinal region to the middle line; there was also considerable abdominal pain. On inquiry menstruation had been normal.

An operation was performed, an 8-inch incision being made in the middle line. A large pedunculated tumour was found springing from the right ovarian ligament and quite distinct from the ovary. This tumour was of a solid nature, but on one side there was a cavity where a rupture had taken place. Within the cavity was some degenerating blood clot. The pedicle was long and was twisted once, as in a corkscrew, that is to say, there was no actual strangulation at the time of operation. There was some peritonitis and a little yellowish fluid in the pelvis; the pedicle was ligatured and the tumour removed. The uterus was noticed to be covered with small sub-peritoneal fibroids. The pathological report was that the tumour was a fibro-myoma.

CASE 2.—The patient was a married woman, aged 44 years. For nine months previous to her admission to hospital the patient had suffered from abdominal pain. 14 days ago while stooping down to sweep a floor she experienced severe pain and shortly afterwards noticed the presence of a tumour in the abdomen. The pain continued and vomiting set in. She managed to get about for a few days and then took to her bed. Subsequently she was removed to the Radcliffe Infirmary. Menstruation had always been normal. On admission the patient looked very ill. Her pulse was 96, her respirations were 26, and her temperature was 98·4° F. The abdomen was full and rounded and a well-defined hard mass of a horse-shoe shape could be felt on the left side; this lump was moveable and very tender. During the night of admission there were considerable pain and vomiting. The following day the temperature was 102·4°

[1] THE LANCET, Feb. 15th, 1896, p. 408.
[2] Boston Medical and Surgical Journal, Nov. 7th, 1896.

and the pulse was 112. It was then found that the swelling had moved across from the left to the right of the abdomen. The patient's condition was then so bad that it was doubtful if she would stand any operative treatment. At a later date she rallied and an operation was considered justifiable.

An operation was performed, an incision of 15 inches being made in the middle line. A large tumour was found firmly adherent to the parietal peritoneum, the great omentum, mesentery of small intestine, and to the cæcum and pelvic colon; these adhesions were separated with much bleeding. The tumour was found to be springing from the right broad ligament; its exact point of origin was doubtful: owing to the peritonitis and adhesions which had formed the ovary could not be identified. The pedicle was tightly twisted three times, this was ligatured and the tumour removed; the profuse bleeding from points where adhesions had been separated was dealt with by gauze packing.

Pathological report on tumour, fibro-myoma. Both patients made a good recovery. In each case it will be seen that there had been symptoms extending over a period of eight or nine months before the final outbreak; and where the pedicle is twisted three times as in the second case one would presume the process to have been a gradual one brought to a climax by some violent movement. The first case illustrates a fact, pointed out by Harrison Cripps,[3] that it is possible to have a pedicle so twisted that it will give rise to acute symptoms and then become again untwisted. Butler-Smythe[4] records a case where three loose half turns were found in a pedicle, but at the time of operation there was no actual strangulation. With a long pedicle, as in this case, a slight twist may give rise to very severe symptoms, while a short pedicle may be twisted many times without producing an equivalent amount of disturbance. In the majority of cases the onset is sudden and the symptoms are severe and simulate appendicitis or intestinal obstruction, the diagnosis frequently only being made after opening the abdomen. One point I would call attention to is the mobility of these tumours; in both my cases the tumour was found to have changed its position in the space of 24 hours, in one case moving across from one side of the abdomen to the other. Both tumours were fibro-myomata, the first springing obviously from the ovarian ligament and being quite distinct from the ovary; it was also associated with many small pedunculated fibroids of the uterus. The second was of the same nature and was growing either from the same structure or from the ovary. Doran[5] has pointed out that myomata of the ovary are probably derived from muscular elements in the ovarian ligament; hence both these tumours may be looked upon as anatomically uterine. It is more usual for tumours of this nature to burrow behind the peritoneum and give trouble by the forward displacement of abdominal viscera than to become pedunculated. Torsion of an ovarian pedicle has been accounted for in various ways. Lawson Tait[6] considered the alternate emptying and filling of the rectum an important factor, while Doran[7] attached the same importance to the filling and emptying of the bladder.

Dr. Herman Friend[8] enunciated the following doctrine: "That in the progress of growth ovarian tumours undergo changes of position, in their early stages growing downwards into the pelvis behind the uterus, the pedicle being in front; while in a later stage they rise out of the pelvis and fall forwards towards the abdominal wall, the pedicle being then behind." Gelpke,[9] who has had exceptional experience with regard to twisted pedicle, points out that it is strange why every ovarian tumour does not become acutely twisted if the complication is due to internal causes. He believes that in the majority of cases it is due to external causes, and in support of this records a series of eight cases, all the patients being workers in a ribbon factory, the weaving of the ribbons involving violent flexions of the trunk. The truth probably lies half way: in the slowly developing form of rotation some internal cause may be at work, while acute torsion is produced by some rapid movement of the body. In many cases external influences have been overlooked or passed unnoticed; in my first case there was no history of traumatism, while in the second I obtained a distinct account of a stooping movement followed by pain. It has been suggested that the presence of another tumour, such as a cyst of the opposite ovary, a fibroid of the uterus, or pregnancy, were necessary factors, but it is a significant fact that torsion of an ovarian pedicle is unduly common in children where none of these conditions exist. Here the complication can be accounted for by the rapid movements to which children subject their bodies.

Oxford.

[3] THE LANCET, Feb. 15th, 1896, p. 408.
[4] THE LANCET, Nov. 25th, 1899, p. 1438.
[5] THE LANCET, Feb. 7th, 1903, p. 350.
[6] Diseases of the Ovaries, p. 303.
[7] Tumours of Ovaries, p. 118.
[8] Centralblatt für Gynäkologie, June, 1892.
[9] Stieltorsion der Ovarial Cysten, Gynaekologia Helvetia, 1904, p. 23; Revue de Gynécologie et de Chirurgie Abdominale, vol. viii., 1904.

## A CASE OF THROMBOSIS OF THE CAVERNOUS SINUS,

### TOGETHER WITH BRIEF PATHOLOGICAL AND BACTERIOLOGICAL NOTES.

BY SYDNEY STEPHENSON, M.B., C.M. EDIN., F.R.C.S. EDIN.,
OPHTHALMIC SURGEON TO THE EVELINA HOSPITAL AND TO THE QUEEN'S HOSPITAL FOR CHILDREN, HACKNEY ROAD, LONDON.

ON May 7th, 1908, I saw a man, aged 27 years, the condition of whose eyes had caused considerable anxiety to his medical adviser, Mr. Hugh Webb of Parson's Green, S.W. For several years the patient had been subject to a thick discharge from the nostrils. On Feb. 12th, 1908—that is, 12 weeks before I was called to the case—he had attended the Throat, Nose, and Ear Department of the West London Hospital under Dr. H. J. Davis, to whom I am indebted for notes as to the conditions existing then and later. According to the hospital notes the patient was deaf, suffered from nasal catarrh, and had been hoarse since an attack of tonsillitis one month before he attended the hospital. Moreover, there was a papillomatous nodule on the left vocal cord, and secondary infiltration of the larynx was suspected to be present. A diagnosis of "nasal disease" was entered upon the sheet. A week later muco-pus was noted as present in the middle meatus of the right nasal chamber. On March 11th pus was found in the right ear. On March 25th the patient was seen for the first time by Dr. Davis who confirmed the existence of a suspicious nodule on the left vocal cord. The right nostril was bathed with pus and blocked by polypi. A somewhat serious view of the case was taken by Dr. Davis who would, indeed, have admitted the patient to hospital had there been room. On April 1st Dr. Davis removed a couple of polypi from the right nostril. On the 4th the patient was shown at the Laryngological Society for an opinion as to the nature of the nodule upon the vocal cord. Three days later (the 7th) Dr. Davis removed a portion of the nodule with forceps. The patient attended for the last time at the hospital on the 15th. On that date he was feeling very poorly and during the next day or two his illness increased. He complained of severe pain in the head and the back of the neck and was "feverish." Dr. J. Sidney Pearson (who was acting for Mr. Webb) was called in on the 20th. That gentleman at first thought that he had to deal with a somewhat unusual manifestation of influenza, an ailment at that time epidemic in the district of Parson's Green. But on the 23rd the patient's right eye became prominent and his left eye followed suit in the course of the following day. The exophthalmos was accompanied by pronounced chemosis. The patient was unable to open his eyes. At about this time there was a tender swelling behind the right ear, the exact nature of which was not altogether apparent. In addition to the more or less local symptoms the patient was obviously ill, and his temperature, although fluctuating, remained above the normal line. Mr. Webb returned to his work at the beginning of May—that is to say, when the patient had been ill for about a fortnight. He found the man seriously ill with proptosis, chemosis, and high temperature, and for two days before I saw the case with a tendency to drowsiness and somnolence.

On examination, the patient, who looked extremely ill, lay on his back in bed and complained loudly when any attempt was made to move him for purposes of examination. His neck was held rigid. He was somewhat wasted but was stated always to have been thin. His pulse was 92 and the temperature was 99·4° F. His mental condition was clear and he answered questions fairly well, although slowly.

His neck and chest were thickly covered with sudamina. There was tenderness over both sides of the neck but no mastoid œdema. The abdomen was soft. The heart and lungs were normal. The patient, whose voice might be described as "laryngeal," could blow down each nostril but not freely. The sight, said to have failed but little during the course of the illness, was adequate to recognise the position of the seconds-hand of my watch. Both eyeballs were thrust forward more or less in the axis of the orbit and the ocular movements were restricted in all directions. There were no complaints of diplopia. The free edge of each lower lid was overlapped by red and fleshy chemosis, derived from the lower half of the ocular conjunctiva. The superficial parts of each eyeball were normal. The pupils, transverse diameter 3 millimetres, were active to light. The retinal veins were grossly distended, the retinal arteries were small, and the optic discs were somewhat hazy, although definite papillitis could not be said to exist. A diagnosis of thrombosis of the cavernous sinus was made and a correspondingly bad prognosis was given.

At 4.30 A.M. on May 9th the patient was seized with dyspnœa, accompanied by much cyanosis, and his condition was so grave that he seemed likely to die then and there. The attack lasted for six and a half hours. I saw him on the following day. He was desperately ill and although semi-conscious answered questions intelligently. His skin had an earthy colour and was covered with sweat. The pulse was 168, the respirations were 62, and the temperature was 102°. The pupils, 6 millimetres, were active to light. Exophthalmos had increased since the last note, so that the eyeballs could now scarcely be covered by the eyelids. The chemosis was as noted. A reddish, semi-fluctuant swelling was present beneath the inner half of the right upper lid and a similar though smaller swelling beneath the inner third of the lower lid. An abscess had developed at the root of the index finger of the right hand. A small superficial pustule was present, but it was clear that pus was present in the metarcarpo-phalangeal joint itself. The patient was obviously suffering from pyæmia and at the point of death. As a matter of fact he died at 3.10 A.M. on May 11th, after an acute illness that had lasted for about 23 days.

*Post-mortem examination.*—A necropsy was made at 5.45 P.M. on the day of the patient's death by Dr. W. A. Milligan, pathologist to the Queen's Hospital for Children. It was noted that the proptosis had receded and that the chemosis had become reduced. The head alone was examined. On removing the skull-cap the dura mater was found to be bulging and the veins distended. When the dura mater was opened pus was seen on the surface of the brain, extending upon the Sylvian fissure. On raising the frontal lobes a large amount of pus was found to lie beneath the right lobe. When the brain was removed pus was seen to cover the whole of the base and to extend up the Sylvian fissures, more especially as regards the right side. On section the brain and cerebellum were normal. The sinuses were then systematically examined and the following conditions were found. On opening the cavernous and the circular sinuses pus welled up and a little dissection showed that an organised thrombus ran from one cavernous sinus to the other through the circular sinus. The right supra-orbital plate was then cut away and pus was found lying in the orbit, thus accounting for the swellings (abscesses) noted in the right orbit during life. The sphenoidal sinus and the ethmoidal cells also contained pus. The longitudinal venous sinus was also affected in the same way. On the other hand, the right frontal and the right maxillary sinus were free from pus and so was the right ear. The metatarso-phalangeal joint of the right index finger was opened and was found to contain pus. The conclusion reached from the post-mortem examination was that infection had spread from the ethmoidal and sphenoidal to the circular and cavernous sinuses and had set up a septic meningitis associated with pyæmia, to which the patient ultimately succumbed.

*Bacteriological examination.*—Agar tubes were smeared with pus from (1) the right cavernous sinus, and (2) the finger-joint. Other media were also inoculated and smears were also made from the sources named. From pus in the cavernous sinus after incubation cultures of the pneumococcus were obtained and organisms answering to that description were also found in the cover-slip preparations. Staphylococci were cultivated from pus in the finger-joint.

Welbeck-street, W.

# Clinical Notes:

## MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

### ENDEMIC FUNICULITIS.

BY A. WEBB JONES, F.R.C.S. ENG.,
SURGEON AND GYNÆCOLOGIST TO THE GOVERNMENT HOSPITAL, ALEXANDRIA.

AFTER reading Mr. D. K. Coutts's interesting article under the above heading in THE LANCET of Jan. 23rd (p. 227) I feel that the following (?) example of the malady may be worth recording.

The patient, an Egyptian, aged 65 years, was admitted to hospital under my care in June last. He gave a history of having had a right inguinal hernia for some years, which about ten days before admission became irreducible and progressively more and more painful. There was no vomiting or constipation. On admission the temperature was 38·5° C. and the right inguinal canal and upper part of the scrotum were filled with a tense, tender, doughy, cylindrical mass which gave no impulse on coughing. Although aware of Mr. F. C. Madden's paper,[1] I must confess that I diagnosed the case as one of strangulated hernia and operated immediately. After cutting through the skin and superficial tissues I first entered a large, evil-smelling abscess cavity with sloughy walls. In the floor of this I found a dark-purplish sausage-shaped mass running upwards towards the internal ring and downwards into the scrotum. A little blunt dissection showed me that this was formed by the tissues of the cord inflamed and swollen to a thickness of one and a quarter inches in diameter. The mass was studded with tiny cavities. Imbedded in its upper end a finger-shaped structure attracted my attention and it proved on investigation to be the inflamed vermiform appendix. I amputated the appendix at its base and freed the rest of the inflammatory mass from the cæcum, to which it was adherent on the outer aspect. The cord was then ligated and divided, the junction of the ileum and cæcum was pulled out and cleansed with saline solution, and, lastly, the gangrenous tissues composed of the cord-imbedded appendix and testis were removed *en masse*. A cigarette drain was placed in the internal ring and another in the scrotum. The patient, in spite of his advanced age, made a rapid and uninterrupted recovery.

The relation of this case as it stands might of course suggest that we had a hernia containing an adherent appendix which, becoming inflamed, subsequently infected the cord, producing thrombosis of the pampiniform plexus and cellulitis. However, apart from the rarity of appendicitis amongst the Egyptians, I am persuaded that this was not the case. A few months before I had an opportunity of removing an appendix contained in the sac of a strangulated hernia and the picture was utterly different. In this case the parts removed, after hardening in formalin, were kindly examined for me by Dr. M. Amand Ruffer and I think the term "embedded in" best describes the relation which we found the appendix presented to the tissues of the cord. The testis apparently was little affected.

If this case may be grouped in the same category as those of Mr. Coutts, there is one point of contrast which I think deserves mention—namely, the advanced age of the patient. I notice that Mr. Coutts says that it appears to be a disease of young adults. In one point I cannot quite agree with him. He advocates the conservative treatment of the testis, partly on account of the value of its internal secretion. Surely this is of less importance after the age of puberty and the presence of the remaining organ will be sufficient guarantee against any of the unpleasant sequelæ sometimes seen when orchidectomy was practised as a remedy for prostatic hypertrophy. Again, with drainage the dangers of having possibly left an infected stump should be, at any rate, not greater than those incident to the method of treatment by incision and lysol fomentations.

I had one other case in December, 1907, which was also successfully treated by orchidectomy, whilst I also have had

[1] THE LANCET, Feb. 23rd, 1907, p. 505.

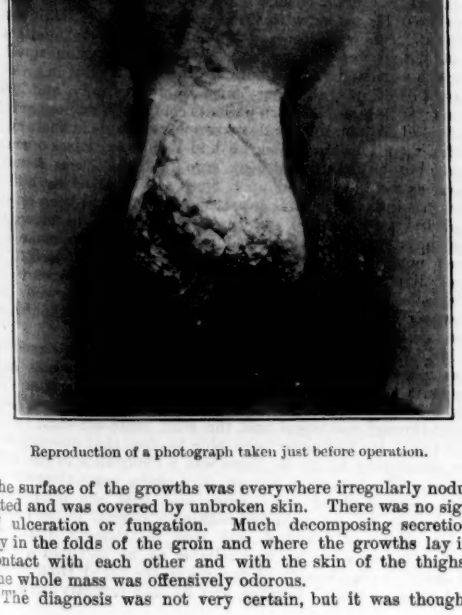
an opportunity of seeing one fatal case in the practice of another surgeon in which no treatment had been adopted. Seeing, therefore, that the condition may have a serious termination, my own inclination would be for the more radical measure, except in cases where the other testis was absent or diseased.

Alexandria.

## NOTE ON A CASE OF ELEPHANTIASIS VULVÆ.

By J. SINCLAIR MANSON, M.B., CH.B. EDIN.,
LATE SENIOR HOUSE SURGEON TO THE OLDHAM INFIRMARY.

A MARRIED woman, aged 42 years, was admitted to the Oldham Infirmary on June 27th, 1907, under the care of Dr. A. H. Godson. She complained of large growths between her legs which prevented her from sitting down. Very briefly the history of the case is as follows. Four years previously she noticed a lump on the left side of the vulva of about the size of a pigeon's egg. This continued to enlarge painlessly until its size gave her some concern. She then sought advice at a gynæcological hospital in a neighbouring city. She was admitted for a few days and was then treated as an out-patient for some time. Two years later a similar growth appeared on the other side, while that on the left side had now reached a considerable size. She again became a patient at the aforementioned hospital. She now began to have difficulty in micturition and on several occasions a medical man had to be called in to pass a catheter. The growths continued to enlarge and her difficulties in walking, sitting, and micturating increased proportionately until her life became a misery. On examination her general appearance was that of a fairly healthy woman. On separating the thighs three large growths could be seen attaching themselves to the vulvar region. The lateral growths were each of about the size of a cocoanut and they hung down by a broad pedicle from each labium majus. The middle growth was smaller and was attached by a broad pedicle to the left labium minus. The right labium minus was thickened but did not present any prominent growth. (These appearances are shown in the photograph which is here reproduced.)



Reproduction of a photograph taken just before operation.

The surface of the growths was everywhere irregularly nodulated and was covered by unbroken skin. There was no sign of ulceration or fungation. Much decomposing secretion lay in the folds of the groin and where the growths lay in contact with each other and with the skin of the thighs. The whole mass was offensively odorous.

The diagnosis was not very certain, but it was thought that lymphatic obstruction had much to do with the swellings from the larger labia. In order to facilitate the lymphatic flow the central mass (that from the left labium minus) was amputated. The patient was put on a course of izal baths and the larger tumours diminished somewhat. There being no marked improvement both were amputated at a later date. The patient made a good recovery and left the hospital on Oct. 7th. Four months later she was examined and no sign of recurrence was present. She was quite well and at work.

A histological examination proved the growths to be non-malignant and to be composed chiefly of fibrous tissue with enlarged lymph spaces and groups of small round cells congregated round the blood-vessels.

The history, clinical appearances, and the histological examination all point to a diagnosis of elephantiasis, the causal agent being unknown. Dr. G. F. Barbour Simpson of Edinburgh who has examined the photographs and section agrees with this view.

I am indebted to Dr. Godson for permission to publish the case and to Mr. Sneyd, the radiographer, for the photograph.

Warrington.

## A CASE SHOWING THE VALUE OF WATER AS A DIET FOR PREMATURE INFANTS.

By A. G. WHITEHORNE-COLE, L.R.C.P. LOND., M.R.C.S. ENG., M.I.H.,
AND
J. E. PRENTIS, L.R.C.P. LOND., M.R.C.S. ENG.

Mrs. —— gave premature birth on Nov. 15th, 1907, to a male child at the sixth month. The labour, which was natural, altogether lasted one hour. Immediately after birth the infant was wrapped in cotton-wool. Since he made no effort to suck when put to the breast the milk was withdrawn and the child was fed with it but he could not digest it. He was then fed hourly for the next 12 hours with 3 drachms of warm water to which a quarter of a grain of bicarbonate of sodium was added, and in addition spiritus ammoniæ aromaticus, ♏ iii., with distilled water to 1 drachm, was given every hour. For the following 24 hours the water diet was given as before and the aromatic spirit of ammonia every three hours. The child was then put to the breast again, but he still had no idea of suction; the milk withdrawn was given to him but still he could not digest it. The milk was then used diluted to various strengths with sterile water, barley-water, and lime-water, but in each case it disagreed with the child. He had now lived four and a half days and showed signs of improvement. Fully peptonised milk in the proportion of 1 of milk and 7 of water was now tried; this he continued to take for two and a half days, when he became fretful and flatulent. Half a grain of grey powder was given, also a little aromatic spirit of ammonia and peppermint water, and the "water diet" adopted for a day. Peptonised milk in the above proportions was now given for two days and "water diet" on the third day. This alternate method of feeding continued until the child was 31 days old. At this age the child was in good condition; he had gained 10¾ ounces (he weighed 2 pounds at birth); the cheeks had filled out; the yellowish discolouration of the skin which was present at birth had disappeared; the umbilicus was healed naturally; the child had a much stronger cry, slept well, and showed quite a keen desire for his food.

On his thirty-first day he suddenly became cold and rigid; the jaws were fixed; the respiration was slow and very shallow; the pulse was weak and rapid; the colour was unaffected; there were no twitchings, and the legs were not not drawn up. This attack passed off rapidly on the child being immersed in hot water and a little brandy (♏ v.) being given. For the next three days the child was put on the "water diet," but his progress was most unsatisfactory, frequent doses of brandy having to be administered. He then had another attack of a similar nature to the previous one, which he did not survive. The infant lived 34 days.

*Remarks.*—This case is rare and of considerable interest for the following reasons. The infant survived 34 days (very exceptional).[1] There must have been very fair

[1] Jellett: Manual of Midwifery, p. 107; also Edgar: Practice of Obstetrics, p. 85.

power of assimilation for such improvement to have taken place and for the infant to have increased in weight and to have lived so long. There was sufficient vitality to allow of natural proliferation of tissue, since the umbilicus healed naturally, no sinus being left. The case exemplifies the value of a "water diet" for such premature infants; Edgar recommends plain sterile water to be given freely. It may be presumed that the prolongation of life and the maintenance of the natural action of the eliminative functions of the body were due to the water assimilated plus the continuous small doses of ammonia. The amount of milk taken was probably altogether insufficient to support life. If this infant could have been placed under more advantageous circumstances—e.g., skilled nursing day and night and an incubator—we might have reared the child or, at any rate, have prolonged his life to a much greater extent.

# Medical Societies.

## ROYAL SOCIETY OF MEDICINE.

### MEDICAL SECTION.

*Ulcerative Colitis.*

THE adjourned discussion on Ulcerative Colitis was held on Feb. 10th, Dr. T. H. GREEN being in the chair.

Sir PATRICK MANSON said that he disliked the use of the term "ulcerative colitis" so far as it suggested the name for a disease. He believed ulcerative colitis to be merely a name for a phase of a class of diseases which hitherto had been included under the term "dysentery." His objection to the use of the term as the name for the disease was because it gave rise to the impression that ulceration was a feature more or less peculiar to the condition, and that ulcerative colitis represented something new which had not thus far been recognised in pathology. Moreover, it had the disadvantage of causing the exclusion of important phases of the disease of which it was only one feature, and that a temporary feature. The proper basis for the classification of any disease was the etiology of that disease, and unless medical men applied that principle to the classification of dysenteries they would be likely to be misled. Dysentery itself was not a disease; it was merely a word describing a group of symptoms indicative of an inflamed condition of the bowel as the common cause. Indeed, the word had little more significance so far as disease of the bowel was concerned than was possessed by the word "cough" as indicative of disease of the lung. He divided dysenteries into three categories according to the assumed causes: (1) the bacterial form of dysentery; (2) the protozoal form of dysentery; and (3) the verminous form of dysentery produced by various parasitic worms. Speaking of the application of surgery to the cure of dysentery, Sir Patrick Manson said that in most cases he deprecated the idea of an operation. As soon as the word "operation" was pronounced some patients were never satisfied until it was performed. In the class of cases under discussion he believed that if operative procedure became popularised it would in the long run kill more than it would cure. In the hands of competent surgeons the operation could do good, but in the hands of general surgeons, particularly in those of unpractised surgeons, attempts at operation would prove to be disastrous. In his own experience he had only seen two or three cases in which an operation was required. In one case the patient was passing masses of organised tissue, evidently polypoid excrescences, and was suffering intense pain. In that case the surgeon opened the bowel, rather with the idea of mitigating the pain than of effecting a cure. Another case was that of an elderly man suffering from chronic dysentery which had been neglected for many years. When the man came to him he was evidently in the last throes of chronic dysentery, and as the case went from bad to worse the bowel was opened and the patient eventually recovered. In another case the patient, who at first demurred to the operation and at last consented, died before it could be performed. In the treatment of cases of dysentery imported into this country—as distinct from dysentery arising in this country—proper food and rest, combined with systematic and persistent administration of ipecacuanha—given as mercury was given over a long period in cases of syphilis—would in the majority of instances render an operation unnecessary.

Dr. T. CLAYE SHAW spoke of the question of ulcerative colitis from the point of view of nervous derangement. He said that a quarter of a century ago he noted the peculiar pathological appearances in asylum dysentery, which was similar in all respects to what was now known as ulcerative colitis. At that time bacteriology was in its infancy, but he attributed the cause of the lesions or ulceration not to bacterial origin but to nerve degeneration. He found in insane patients a correspondence between nervous and gastric symptoms, suggesting that the digestive functions were deranged and that the colitis was primarily due to nerve degeneration. When a severe epidemic of colitis broke out at the Claybury Asylum, however, it was held, although no bacillus was found, that it was microbic in origin. He said it must be acknowledged that in some of the cases colitis was an infectious disease. The ulcerations which had been described in the condition had a peculiar punched-out appearance and sometimes there was considerable erosion of the mucous membrane of the intestine. Though as a rule the disease was infectious and might be microbic, its association with nerve degeneration must never be lost sight of.

Dr. SIDNEY P. PHILLIPS said that most of them knew the disease they would be called upon to discuss when they saw the heading "ulcerative colitis." He agreed that there was no difference between some forms of colitis and ulcerative colitis, that acute colitis in an early stage might have no ulceration, but that ulceration might subsequently succeed. He regarded the disease as more common now than it was formerly, as shown by the lack of mention of it in hospital reports. He did not agree that it was not met with between infancy and adult life. He had published a well-marked case which died at the age of 13 years. He was surprised that more mention had not been made of the pain in the disease, which was sometimes agonising and sometimes almost caused collapse. He did not find it difficult to account for the fact that hiccough was seldom mentioned as a symptom; the notes of the cases in hospitals were probably made by very many different persons who had not been taught to regard hiccough as a symptom worth mentioning because there was no significance attached to it. Sir Almroth Wright had examined many of his (Dr. Phillips's) cases bacteriologically and had found only streptococci and the bacillus coli, but he believed that in some of the asylum cases Shiga's bacillus had been found. But in the post-mortem room the cases which occurred among the insane were not to be distinguished from cases occurring in ordinary individuals outside asylums. He agreed with the statement of Dr. W. Hale White that as far as was known drugs had no effect on the disease, but mercury seemed to have a beneficial action upon it, though admittedly it did not cure the cases. But in order to have this effect the mercury must be given freely, and it was remarkable how much such patients could take without getting salivated. Adrenalin was also extremely valuable in acute cases. With regard to operation, he had seen many cases operated upon but he had never been sure that the cases reported upon as being operated upon were the same as he himself had in mind. In several cases the appendix had been opened and irrigation carried out through that, but in many the appendix was found bound down too tightly to make any such measure possible. Every case should be judged on its individual merits but irrigation alone did not cure the disease. He had one or two cases which showed that however bad a patient might be the physician should not despair, for he might recover.

Mr. W. G. SPENCER described a case in which medical treatment had been tried for some time, including high enemata, and the case was then handed over to him. He did a colotomy and afterwards the nurse was able to syringe right through the bowel and the stuff came out clear in the bed-pan. He had never been able to close that opening and on attempting to do so there was a recurrence of the condition. The patient, a woman, died seven years afterwards. The local medical practitioner said that she died from alcoholism but he could find nothing abnormal in the colon.

Dr. NORMAN DALTON said that he thought that the serum diagnosis was not very reliable as he had had a case of multiple papillomata of the colon, the blood from which had clumped Shiga's bacillus, and he had recently known of

a case of ulcerative colitis in which the blood had not clumped the bacillus of Shiga or of Flexner but had rapidly clumped the typhoid bacillus when well diluted (1 in 50). In the latter case the bacilli usually found in ulcerative colitis had either produced the same agglutinating agent as the typhoid bacillus or the typhoid bacillus had produced the symptoms and lesions of ulcerative colitis instead of those of typhoid fever. On either supposition the claim of this group of organisms to be specific was impaired. As regards the prevalence of ulcerative colitis among lunatics, he thought that, considering how near to insanity were many sufferers from enteroptosis and mucous colitis, the intestines of large numbers of lunatics were probably predisposed to the disease. As regards treatment, he thought that it was almost never too late to do colotomy and mentioned that Mr. A. Carless had performed that operation on a case of his which was apparently *in extremis*, that the patient recovered, and that after five years the colotomy opening had been successfully closed.

Mr. J. P. LOCKHART MUMMERY said that some cases of ulcerative colitis were seen at St. Mark's Hospital, and a point which had not been referred to so far was the use of the sigmoidoscope in such cases. One advantage from the use of that instrument was that one could see the type of ulceration present, for there were many forms of ulceration in the intestine. If the examination with the sigmoidoscope were properly conducted there was no danger, because the instrument did not even touch the wall of the intestine in its passage, when preceded by inflation with gentle puffs of air. There were some comparatively mild cases in which a large area was excoriated and red, as if the whole mucous membrane had been sand-papered. Those patients, in his experience, readily got well; these cases should be kept in bed and the bowel washed out with suitable irrigants. He had collected records of 25 cases of ulcerative colitis treated by operation, six in his own practice and the remainder from other sources. Of those 25 five died, or a mortality of 20 per cent. In 33 cases not treated by operation 26 died, or 78 per cent. mortality.

Dr. BERTRAND DAWSON said that an investigation of a number of cases at the London Hospital showed that blood in the stools was not a criterion of ulcerative colitis as against mucous colitis. He regarded hiccough as simply an indication that the disease was associated with dilatation of the stomach. Many people with colon disease had dilated stomachs. He found at the London Hospital that there were six cases of ulcerative colitis and 39 of all other kinds. Of the six ulcerative cases five passed blood, six had diarrhœa, and four mucus. Of the 39 other cases 21 had blood, 21 diarrhœa, and 38 mucus. Appendicostomy and opening the colon had done good in some cases but those patients seemed unable to go back afterwards to the rough-and-tumble of life. He raised the question whether the cause of the colitis was not higher up in the small intestine; possibly some toxic products got into the blood and were excreted into the colon, for there was ample evidence that the colon acted as an excretory organ.

Dr. J. P. ZUM BUSCH gave an account of his experience of 11 cases which had come under his observation since 1903, seven in women, three in men, and one in a boy. Five of the cases were treated without operation, two dying and three recovering. He spoke highly of the injection of a solution of peroxide of hydrogen, which should, however, be prepared fresh for each application. In four cases, all women, he performed colotomy in the transverse colon; they were all very bad cases and the operation was followed in each case by a very quick improvement in the symptoms.

Dr. H. D. MCCULLOCH mentioned a case of tropical dysentery which was treated by him two years ago with serum supplied by the Pasteur Institute. From the case he isolated Shiga's bacillus. The cicatricial condition of the colon in that case was at one time very alarming, and stricture seemed to be threatening in almost every direction. He applied the x rays to bring about resolution of the fibrous hyperplasia with great benefit.

Sir WILLIAM H. ALLCHIN said that there was very little in the debate to which it was necessary for him to reply. He scarcely accepted as valid Sir Patrick Manson's objection to the term "ulcerative colitis." He had hoped to hear more information on the bacteriology of the condition. More information was required in order to speak definitely of the disease from a causal point of view. He had been particularly glad to hear the remarks of Dr. Dawson, following upon those of Dr. Hale White, and no doubt there was considerable encouragement in the outlook in the direction of treating those cases with coli vaccine.

## SURGICAL SECTION.

*Lymphatics of the Colon.—The Torus Palatinus.*

A MEETING of this section was held on Feb. 9th, Mr. J. WARRINGTON HAWARD being in the chair.

Mr. J. F. DOBSON and Dr. J. KAY JAMIESON communicated a paper on the Lymphatics of the Colon, in which they first dealt with the distribution and anastomoses of the blood-vessels of the colon. The lymphatic glands were divided into chains, according to the arteries on which they lay; each chain was subdivided into groups, epicolic, paracolic, intermediate, and main groups, and the position of each group was indicated. The lymphatic vessels from the bowel were traced to the glands and it was shown that in some situations vessels passed by the local glands and entered glands of the intermediate and main groups. This was seen more often in the case of vessels from the hepatic and sigmoid flexures than elsewhere. Communications between the lymphatic and venous systems had been observed. A lymphatic connexion between the transverse colon and splenic flexure and the splenic glands was described. Recurrence was not uncommon after local excision for malignant disease of the colon and was probably due in the majority of cases to gland metastasis. The ideal operation would consist in removing a considerable length of gut on either side of the growth, all the primary glands with the vessels running to them, and the tissues in which those vessels lay in the so-called "lymphatic area." It was shown how far the ideal operation could be carried out in cases of malignant disease of various parts of the bowel.

Mr. RICKMAN J. GODLEE read a paper on the Torus Palatinus, an anatomical curiosity which, he said, had only been slightly and fugitively studied. As most commonly seen the torus consisted of a more or less narrow ridge corresponding to the median suture of the palate extending backwards well onward to the palate bones and tapering gradually in front and more abruptly behind. The ridge might occupy as much as two-thirds of the whole width of the palate and sometimes it was made of irregularly rounded bosses. Speaking of the torus in relation to the different races Mr. Godlee said that it was well marked and very common among the Tasmanians and the Polynesians. Out of 97 Peruvian skulls at the Royal College of Surgeons of England he found only eight having a trace of a torus. He had examined 60 skulls of lunatics, in about ten of which there was a more or less well-marked torus. It appeared rather as though the presence of a torus was the mark of a primitive race. The existence of the condition was not widely recognised by English surgeons, but it was high time that it took its proper place among the tumours of the palate. The three points arising out of his own observations of that peculiarity to which he directed special attention were (1) that he had met with it among members of the same family; (2) that in certain cases it did not appear to increase perceptibly after the lapse of time and in other cases there was a slight increase; and (3) that the swelling was so abrupt at one part as to cause the ridge sometimes to escape observation, these last being often the cases in which removal would be beneficial.—Mr. HAWARD said that Mr. Godlee had done great service in pointing out the true nature of torus palatinus.—Mr. H. T. BUTLIN described a case which had come under his observation and thought that the increase of size which was alleged sometimes to take place was in reality only due to inflammation of the part.—Mr. J. G. TURNER gave particulars of his observations upon inmates of asylums, stating that out of 530 such inmates he found only two examples of the torus, thereby disposing of the suggestion that the presence of the torus was a stigma of degeneration. He also spoke of finding it in certain animals. Ridges were found in nearly all vertebrate animals, although among the higher apes and the carnivora they were rare.—Mr. S. P. MUMMERY related a case in which a woman had noticed a swelling in the palate as a child. It increased to a certain size and then remained stationary until she was 45 years of age, when it increased very rapidly, was removed, and found to

be cancerous.—Mr. W. HERN had found as a study of six cases which had come under his observations during the last 14 years that but little increase of size was apparent.

## CLINICAL SECTION.

*Early Operation in Cancer of the Tongue.—Exhibition of Cases.*

A MEETING of this section was held on Feb. 12th, Sir THOMAS BARLOW, the President, being in the chair.

Mr. H. T. BUTLIN delivered some remarks on Cancer of the Tongue. He said that the limited number of cases which came under the care of any one surgeon led him to wonder how frequent cancer of the tongue was, and as he could not find any definite published information on the matter he wrote to Dr. J. F. W. Tatham of the General Register Office. With his usual courtesy and readiness to afford assistance to those who were studying death-rates, Dr. Tatham at once sent him information to the effect that during the seven years 1901–07 there died in England 5253 persons from cancer of the tongue, making a yearly average of 750. He (Mr. Butlin) supposed that another 50 to 70 cases might be added to account for the persons who were treated successfully, but he was afraid that was rather a large estimate. Still, it might probably be roughly reckoned that about 820 people suffered from cancer of the tongue in England every year and that 750 of them died from the disease, either with or without operation. Surely a result not very creditable to surgery! Yet he thought they in this country probably showed results of their operations as good as, or better than, the surgeons of any other country. For the feeling on the continent and in America was absolutely pessimistic regarding cancer of the tongue. One of the most distinguished of the American surgeons wrote recently to tell him that in about 36 cases he only knew of two definite cures. And one of the chief Austrian surgeons told him in September that he did not remember ever to have had a successful case. Professor Kocher appeared to be one of the very few surgeons who were really hopeful of their results. For a long time it had been evident that they must operate earlier if they were to hope for better results. Billroth spoke of the importance of early diagnosis years ago but no one had really worked at it until quite recently. Circumstances were against them all, such as the difficulty of persuading medical men and their patients of the advisability of operations for what were not certainly known to be cancers, and the imperfect examination of the reputed precancerous conditions when they had been from time to time removed. Fortunately, five years ago Dr. E. F. Bashford of the Imperial Cancer Research asked him for specimens of early cancer of the tongue. And, still more fortunately, the first material which he gave him and which he (Mr. Butlin) believed to be a pre-cancerous condition, proved to be typical epithelioma. That aroused his suspicion regarding pre-cancerous conditions and led him to urge persons suffering from what appeared to be almost trivial conditions to submit to operation. He supposed that he had become a greater master of the art of persuasion than he was ten or more years ago. But sure it was that he had succeeded in collecting a dozen cases of very early cancer and had had them all carefully drawn; and the microscopical examination had been made by the Imperial Cancer Research. The conditions might fairly be divided into five classes: 1. A little plaque like a hard sore, smooth and polished, but neither ulcerated nor excoriated. 2. The transformation or replacement of a simple ulcer by a cancerous ulcer, which only differed from the simple ulcer by feeling a very little stiffer and a very little firmer. 3. The transformation of an entire plaque of leucoplakia into a plaque of cancer. The difference was marked by very slight thickening, a denser white, and furrowing or fissuring in various directions, but without excoriation or ulceration. 4. The tranformation of one small area of a leucoplakic tongue into cancer, only marked at first by very slight and superficial hardening. 5. A white warty growth or compound wart, neither broken nor ulcerated, and feeling at first as if it were fixed to the mucous membrane and quite superficial. There were other conditions in which cancer of the tongue began but those seemed to him to be the most frequent and the most typical. Of 14 patients three were dead; one from nephritis and heart failure one and a half years after the operation and without recurrence of the cancer; one from affection of the cervical glands without recurrence in the mouth; and one, who was operated on for cancer of the right border of the tongue, from cancer of the left border of the tongue which he would not allow to be cut out until the glands were diseased beyond the reach of operation. The tongue between the two borders was quite healthy. The remaining 11 patients were alive and well at periods of eight months (one case), one to two years (two cases), two to three years (two cases), three to four and a quarter years (six cases). One patient of the last group, for whom he removed the left half of the tongue to very far behind the disease and the lymphatic glands, suffered a year later from a fresh outbreak of epithelioma on the tip of the stump, where it was constantly rubbing against a large lower molar tooth, decayed and isolated. At the present time, three years after the removal of the second cancer, he was quite well. It might therefore be claimed that there was not a single case of local recurrence of the disease in any of the 14 patients, although eight of them lived for three to more than four years after the operation. The glands were removed in nine of the cases. They were told that epithelioma of the tongue could be cured by radium. Had he been asked his opinion on that question a month ago he should have said that, although two or three people in different parts of the world had claimed that power for radium, the general belief was that rodent ulcer was the only variety of malignant disease which radium was competent to cure. And he should have added that the only case of epithelioma of the mouth in his own practice to which radium had been applied (by the most skilful man with the best material) had ended disastrously. But he had, within the last few days, seen a case in which a typical epithelioma of the inside of the cheek was so much better, under the application of radium, at the end of four months that it looked as if it would be quite cured. It must not be forgotten that the removal of the primary disease was only part of the cure of epithelioma. Even the smallest, the youngest, and apparently the most insignificant epithelioma of the tongue was capable of affecting the lymphatic glands, as the cases he had related showed. So that unless radium was discovered to possess a far-reaching influence, spreading from the seat of the primary disease to the associated lymphatic glands, he was afraid that the surgeon must still occupy an important place in the treatment of epithelioma of the tongue.—Mr. A. E. J. BARKER did not wish to prevent surgeons from removing the glands in these operations, but he had had so many cases where he had not removed the glands and where recurrence had not occurred that he was obliged to mention it. The degree of malignancy varied according to the type of cancer.—Mr. W. G. SPENCER considered that a patch on the tongue affording any suspicious induration should be cut out and microscoped.—Mr. A. A. BOWLBY said that in the case mentioned by Mr. Butlin of successful treatment of epithelioma by radium there was a doubt whether it was epitheliomatous.—Dr. BASHFORD said that as small growths in the tongue descended they had a tendency to spread out in a fan-like form. He had 43 different distinct carcinomas under observation and he would be unwilling to say that any one of the 43 was a duplicate of the other.—Mr. BUTLIN, in reply, said that the difficulty of making a diagnosis between some of the early conditions of cancer and the conditions which might be mistaken for them was so great that the safe course to pursue in all cases of doubt was to remove the disease, which could be done by a comparatively small operation, almost without danger. The necessity of removal of the lymphatic glands in every case of cancer of the tongue was a matter which had occupied his attention incessantly during the last 13 to 15 years. He had come to the conclusion that it was his duty to advise patients with cancer of the tongue to have the corresponding glands removed. There were cases in which it might not be necessary and some forms of epithelioma might be less dangerous to the glands than other forms. And the time might come when they would be able to distinguish between the more and the less dangerous forms, but at present they could not do so, and as the glands might be fatally infected through the smallest and youngest cancer of the tongue, for the present the glands should be removed in every instance in which the patient could bear the operation.

Mr. R. J. GODLEE exhibited a case of Dermoid Cyst of the

Mediastinum treated by operation and illustrated by a pathological specimen. This was the continuation of a case presented to the Clinical Society before operation by Mr. G. E. O. Williams and Dr. H. Batty Shaw on Oct. 27th, 1905.[1] The patient was submitted to several operations in University College Hospital. In the first of them the lower part of the cyst was exposed by the removal of costal cartilages. The upper part was in such intimate relation with the large vessels at the root of the lung that its removal was impossible. Some portions of its inner wall and large quantities of hair were taken away. On subsequent occasions other portions of the skin lining the interior were cut away and cauterised. The result had been a considerable improvement in the general health and a diminution of the expectoration. But a large opening remained in which the deep part of the cyst appeared, a forcible pulsation being transmitted to it by the action of the heart. There was a certain amount of discharge consisting of mucus and sebaceous material, with a characteristic offensive smell. There had been several attacks of hæmoptysis, in some of which a considerable amount of blood had been lost. Hardly any hairs were now produced. The specimen shown was one presented to the Museum of the Royal College of Surgeons of England by Mr. Thomas B. Mouat; it had been diagnosed as one of tuberculous glands. The cyst, which was on the opposite side of the chest, presented many features of resemblance to that of the living case. The lower part was intimately associated with the pericardium. The upper was imbedded amongst the large vessels of the mediastinum. The importance of considering the specimen in connexion with the case was that it was possible thus to appreciate the kind of difficulty likely to be encountered in any attempt at removal of these particular cysts, which were in all probability teratomas.

Mr. GODLEE also showed a man on account of the Deformity of Both Feet apparently the result of "gonorrhœal rheumatism" 29 years ago.

Dr. H. MORLEY FLETCHER showed four cases of Oxycephaly. That rare deformity of the skull, otherwise known as "tower" or "steeple" head, generally came under the notice of ophthalmic surgeons, on account of the defective vision associated with the condition. The cases exhibited the characteristic abnormally-shaped cranium, exophthalmos due to imperfect formation of the orbits, impairment of vision the result of partial or complete optic atrophy, and varying degrees of malformation of the superior maxilla. There was no obvious defect of intelligence in any of the cases shown.

Mr. P. MAYNARD HEATH showed a case of Diffuse Periostitis of Both Tibiæ without other evidence of congenital syphilis, and also a case of Congenital Syphilitic Knee in a male, aged three years, brother of the patient with diffuse periostitis.

Dr. F. PARKES WEBER showed a fairly well-developed boy, aged 14 years, the subject of Congenital Splenomegaly with Chronic Acholuric Jaundice. Mr. L. S. Dudgeon found that the patient's blood serum did not exert any hæmolytic action on the red corpuscles of a healthy individual or on the red corpuscles of the patient himself (that was to say, it had no auto-hæmolytic action); nor had blood serum from a normal individual any hæmolytic action on the patient's red cells. The patient's mother said that all her children were born yellow and remained yellow for from three to six months after birth but the jaundice was permanent in the present patient only. Dr. Parkes Weber also showed a case of Chronic Swelling of the Fingers.

Mr. R. HIGHAM COOPER showed a man, aged 51 years, in a condition of Advanced Acromegaly. The enlargement of his extremities was first noticed in the great toes 17 years ago.

Mr. W. SAMPSON HANDLEY showed a case of Elephantiasis treated by Lymphangioplasty. The patient was a clerk, aged 46 years, who had never been abroad. The disease had begun in 1895 with swelling of the left testicle and pain in the left leg. The patient had now been back at work for some weeks and there seemed to be every prospect that the result of the operation would be permanent.

Dr. HERBERT P. HAWKINS showed a girl, aged 19 years, exhibiting Trophic Changes in her hands and her feet with anæsthesia due to leprosy. She was born of English parents near Madras, and two miles from her home there was a leper hospital. There was no disease of eye, nose, or pharynx, and the patient was in perfect health.

Dr. F. J. POYNTON showed a female, aged nine months, the subject of Amaurotic Family Idiocy, who was taken to the hospital because she was unable to sit up; she had a dull and heavy expression and was apparently almost blind. The points of interest were: (1) the early age at which suspicion was aroused; (2) the extremely well-marked changes in the fundi; (3) the superficially healthy appearance of the infant; and (4) that the diagnosis of rickets had been made, as in three other cases under observation in the last four years.

Mr. L. COLLEDGE (for Mr. W. E. FISHER) showed a married woman, aged 47 years, the subject of Mitral Stenosis and Visceroptosis, who was suddenly attacked with pain in the left hypochondrium. Four days later there was a large tumour on the left side of the abdomen. Splenectomy was performed the next day; the spleen contained two large infarcts.

Dr. M. MACNAUGHTON-JONES, jun., demonstrated a simple appliance for obtaining and automatically maintaining any required pressure above or below that of the atmosphere within any closed cavity containing air.

[1] Reported in the Transactions of the Clinical Society of London, 1906, vol. xxxix., p. 210, and THE LANCET, Nov. 4th, 1905, p. 1330, where the previous history, clinical signs, and symptoms are set forth.

## SECTION OF ANÆSTHETICS.

### *The Advisability of Legislation to Control the Administration of Anæsthetics.*

A MEETING of this section was held on Feb. 5th, Mr. RICHARD GILL, the President, being in the chair, when a discussion took place on the Advisability of Legislation to Control the Administration of Anæsthetics.

The PRESIDENT commenced the proceedings by reminding the meeting that the proposition standing in the name of Dr. Dudley W. Buxton was carried by the section, and that Dr. Llewelyn Powell would propose an amendment. In answer to Dr. J. F. W. Silk the President said that if the amendment were carried the whole Bill would be before the section and that it would be open to anyone to move the negative, but in answer to Dr. J. Blumfeld he said he considered that it would not be in order to move that the voting on the last occasion should be annulled.

Dr. LLEWELYN POWELL then moved the following:—

> That the Section of Anæsthetics gives its approval to Clause 2, if amended to read as follows: All examining bodies recognised by the General Council of Medical Education and Registration of the United Kingdom shall require that all candidates for a medical qualification before presenting themselves for their final examinations shall have received thorough theoretical and practical instruction in anæsthetics, and shall have personally administered anæsthetics under the supervision and to the complete satisfaction of their respective teachers, and that all candidates for a dental qualification before presenting themselves for their final examinations shall have received thorough theoretical and practical instruction in the administration of nitrous oxide gas, and shall have personally administered nitrous oxide gas under the supervision and to the complete satisfaction of their respective teachers.

This motion, Dr. Powell said, was a direct corollary to that of Dr. Buxton which was passed at the last meeting. The original wording of the second clause to the Act insisted on dentists being instructed in anæsthetics, but if dentists are to be allowed to give nitrous oxide gas the subject should surely be included in the dentists' curriculum. He thought that the Section of Anæsthetics of the Royal Society of Medicine should record its opinion that it was necessary for medical men and dentists to be educated in the giving of nitrous oxide gas.

The motion having been seconded by Dr. H. J. SCHARLIEB,

Dr. R. J. PROBYN-WILLIAMS said that although all probably agreed that better teaching on the subject of anæsthetics was desirable, and that compulsory instruction should be received by all students, yet, as the General Medical Council had objected to that clause as over-riding the functions of the Council, he thought it should be omitted.

Dr. BUXTON reminded the meeting that the section had already said that in its view dentists should be allowed to give anæsthetics, and now the section had been merely asked to say that, if that were allowed, dentists should be properly instructed.

Mr. H. HILLIARD supported Dr. Powell's motion. Most of the objections to dentists giving gas would, he thought, disappear if dentists were taught how to administer it.

Dr. BLUMFELD said that the chief objection to dentists

administering gas was the practice of performing extractions and giving the anæsthetic at the same time.

Dr. Powell's amendment was then put to the meeting and carried by 11 to 6, when the President invited discussion on the whole question, including the Bill as amended.

Dr. POWELL then proposed the following resolution to put the question upon a wider basis :—

That the Council of the Royal Society of Medicine be informed that the Section of Anæsthetics approves of legislation to restrict the administration of anæsthetics to legally qualified medical practitioners.[1]

Mr. R. W. COLLUM said that at the last meeting he had seconded a motion allowing dentists to administer gas because in another clause of the Bill it was stated that they were to be compulsorily instructed, but if this clause was to be omitted from the Bill he was not in favour of the dentists giving gas.

Dr. PROBYN-WILLIAMS having invited Dr. F. W. Hewitt to state what figures he had showing that a large proportion of the deaths occurring under anæsthetics occurred at the hands of unqualified persons,

Dr. F. W. HEWITT admitted that these deaths were probably comparatively few and that the statistics on the matter were untrustworthy, but he had been much impressed by the circumstances in which these tragedies took place—they were such as to make it probable that in skilled hands those persons would not have died. In answer to the circular which, with the permission of the secretary, he had sent out to the members of the section he had received a large number of letters in favour of the Bill as drafted, including the prohibition of unqualified persons from giving any anæsthetics. Mr. Tomes was also of opinion that legislation of that kind was urgently required as it would help dentists against the rivalry of quacks. Dr. Hewitt briefly described the well-known licence accorded to quacks in this country and urged that it was important for the section to back up the General Medical Council in its efforts to provide legislation for the administration of anæsthetics. He did not think that the first reform should be the better education of our students but preferred to go to the root of the matter and check unqualified practice, supplementing this action by better teaching of the subject.

Dr. SILK proposed the direct negative in a motion :

That this meeting of the Section of Anæsthetics is of opinion that no special legislation on the lines proposed is at present desirable.

He criticised the Bill as being unworkable and held that dentists had been recognised as a separate profession with their own regulations as to education and practice, and he thought that a part of their practice consisted in giving nitrous oxide gas. He considered that any abuses which the Bill was designed to meet were well within the province of the General Medical Council.

Mr. H. BELLAMY GARDNER quoted evidence showing that anæsthetics were often badly administered, and pointed out that ethyl chloride, which was largely employed by dentists as well as nitrous oxide gas, was a dangerous substance in unqualified hands. He regarded the Bill rather as a dental protection measure, and believed that the Odontological Section of the society would agree to the proposed Bill because of the attitude in the matter of the Dental Hospital of London.

On being put to the meeting there voted in favour of the Bill as amended 14 against 7.

Mr. W. J. MCCARDIE then seconded Dr. Powell's motion, which was supported by Dr. BLUMFELD.

Dr. BUXTON protested against the motion being brought forward as being against the spirit of what the section had in view and quoted a letter from a former President of the British Dental Association showing that practically the whole of the dental profession was opposed to the Bill.

Dr. F. M. DICKINSON BERRY supported Dr. Powell's motion, which was carried by 16 to 7.

## OTOLOGICAL SECTION.

*Dermoid of the Mastoid Region.—A "Mastoid Pillow."—Chronic Osteo-myelitis of the Skull.—Exhibition of Cases and Specimens.*

A MEETING of this section was held on Feb. 6th, Dr. PETER MCBRIDE, the President, being in the chair.

The PRESIDENT read notes of a case of Dermoid of the Mastoid Region. The chief point brought out was its extreme rarity.

Dr. DAN MCKENZIE exhibited a "Mastoid Pillow" the peculiarity of which was an opening in the centre sufficiently spacious to receive the ear and mastoid region without exercising any pressure on the tender part, the object being to allow the patient to lie on the side operated on in order to permit of more free drainage.

Mr. ARTHUR H. CHEATLE showed a case of Chronic Middle-ear Suppuration with Caries of the Anterior Meatal Wall and Zygoma. The probable actual cause was traumatism the result of the patient pushing a piece of wood into the ear. In Mr. Cheatle's opinion the caries of the bone was entirely separate from the chronic middle-ear suppuration, which had existed from boyhood. He thought that the local wound, caused by the pushing in of the wood, had become infected by the middle-ear discharge and so caused the osteitis.

Dr. W. H. KELSON read notes of a case of a girl who was exhibited at the previous meeting on account of having both External Auditory Meatuses filled with White Deposit. At that meeting the provisional diagnosis of diphtheria was made. Cultures, however, showed the presence of staphylococcus aureus and a cure was obtained by the frequent instillation of glycerine of carbolic acid.

Mr. SYDNEY R. SCOTT demonstrated an excellent series of lantern slides showing Hair Cells in the Organ of Corti (human).

Mr. C. E. WEST showed cases and specimens illustrating Malignant Disease of the External Auditory Canal and Middle Ear. Mr. West mentioned that he had seen seven such cases in two years and suggested that malignant disease of the ear was more frequent than was generally supposed, and that the condition perhaps had been frequently missed owing to lack of careful examination.

Mr. HUNTER F. TOD read notes of a case of Chronic Osteomyelitis of the Skull the result of mastoid disease (with specimen of calvarium). The condition occurred in a woman who had suffered from purulent discharge for two years and who was operated on on account of a large abscess of the mastoid process. At the time of operation a large area of bone above and behind the mastoid process was found to be necrosed. The skull gradually became affected throughout its entirety until eventually, after nine months, the patient died as the result of meningitis. This case, in the opinion of the section, was unique, although similar cases had been described as a result of infection through the frontal sinuses.

[1] See brief report of the meeting in THE LANCET, Feb. 13th, p. 465.

## MEDICAL SOCIETY OF LONDON.

*Functional Disorders of the Stomach.*

A MEETING of this society was held on Feb. 15th, Mr. JOHN LANGTON being in the chair.

Dr. SIDNEY H. C. MARTIN delivered the second of the 1909 Lettsomian lectures on Functional Disorders of the Stomach. After discussing dilatation of the stomach and gastroptosis he considered the causes of irritation of the stomach. In the first place must be put imperfect mastication, which might be due either to the bad habit of bolting food or to the deficiency in number and soundness of the teeth. In the next place food, in too great quantity, too rich, too highly spiced, or too indigestible, was a frequent cause of irritation of the stomach. This was a cause which frequently acted for years, and although for many years individuals might consume large quantities of food, yet if combined with sedentary habits led to grave defects of nutrition and serious damage to the digestive organs. Meals taken at irregular times and exercise or work soon after a meal were also a source of stomach irritation. The deficiency of daily exercise, with the causes mentioned above, and rush and over-excitement of life, with perhaps periods of stress and worry, might lead to grave gastric disorder. It might shortly be said that it was proper regulations for remedying the defects which had been enumerated which resulted in successful treatment of such cases. The stomach was also readily affected by nervous influences, chiefly emotional, leading to secretory and motor disturbances. One other cause of irritation of the stomach must be mentioned and one of the first importance when present. That was a chronic intoxication from bacterial sources which resulted

from pyorrhœa alveolaris, from chronic tonsillitis, and discharges from disease of the nasal passages and from the antra, which when swallowed led to chronic poisoning of the body. In some cases the removal of those sources of intoxication led to a recovery of the individual. In other cases chronic intoxication resulted from drain emanations in the house. In a certain number of cases of functional disorder intestinal intoxication resulted partly from putrefactive processes of the fæces and partly from infection of the pancreas through the pancreatic duct or from the appendix. In advanced cases of functional disorder there might be either hyperchlorhydria or hypochlorhydria, that was an increased secretory activity of the stomach or a diminished, an increased power of chemical digestion or a diminished power. In such cases therefore it was nearly always advisable to determine the secretory activity of the stomach by means of a test meal. Dilatation of the organ was nearly always present where there was hyperchlorhydria or hypochlorhydria, and there might be a condition of gastroptosis. The history of such cases, as had been said, was nearly always a long one, whether the symptoms were continuous or simply recurrent. In "nervous" individuals and in middle age the history might be short. In those advanced cases there was almost invariably wasting and the loss of flesh might be excessive. Two or three stones might be lost, or even more, in the course of 12 months or two years. There was digestive distress on the taking of food, either immediately or some two hours after a meal. That digestive distress frequently led to vomiting. Previously to treatment the patient frequently complained of pain in the epigastric region. That symptom, however, was not usually to be observed in such cases after they had been put to bed. The vomiting also in such cases frequently ceased on resting. Flatulence was a frequent symptom, commonly most marked towards the end of the day, preventing proper sleep at night. Cases associated with complications such as arterio-sclerosis and other diseases were not now under consideration. In uncomplicated cases in the examination of the abdomen one found splashing in the stomach or the signs of great dilatation. The abdomen was as a rule lax, the muscles being soft and flabby. The cases included under the heading of nervous dyspepsia were some of the most difficult with which one had to deal, not only because the diagnosis from organic disease might present extreme difficulties but because the treatment was difficult and often ineffective. A good many kinds of cases might be included under the heading, such as those which, at one end of the line, showed signs of mental disease or profound neurasthenia with stomach symptoms, and those at the other end of the line in which what appeared to be at first a functional disorder of the stomach developed nervous symptoms. In many of those cases, too, there was not simply a condition of inefficient digestion in the stomach but a deficiency of assimilation and in all probability a deficient activity of all the organs of digestion. But there were many cases which might be called more particularly nervous dyspepsia in which symptoms referable to the stomach predominated, and it was more particularly of such cases that he wished to speak. There were certain characteristics of that class of cases which he would try to formulate in order to simplify their discussion. Many cases showed a great exaggeration of one or other of the symptoms of functional disorder of the stomach. Thus there were cases which showed flatulence as the most prominent symptom; others which showed eructation or hiccough, vomiting, pain, dilatation, or emaciation individually as the most prominent symptom. Associated with the gastric symptoms were reflex nervous symptoms, such as headache, palpitation and dyspnœa and extreme lassitude, mental and bodily. The knee-jerks were exaggerated and there was often a characteristic thoracic blush. In the family history there was frequently migraine, epilepsy, asthma, nervous breakdown, or mental disease. Another characteristic of that class of cases was the variability which they showed, not only of their symptoms but more particularly of the reflex symptoms constantly changing, but the cessation of the apparently serious symptoms was frequently abrupt, as was their onset. The discussion of the important symptoms of nervous dyspepsia would be of help in the consideration of the cases. Flatulence was, of course, a common symptom in functional disorder of the stomach. It was caused by the sources of irritation previously mentioned and was also present in dilatation of the stomach from whatever cause and in bacterial decomposition in the stomach. But the flatulence in nervous dyspepsia differed from that just mentioned very often in its explosive character, in its sudden onset without obvious cause, and in the very large quantities of gas which were brought up. The accumulation of gas in the stomach was due (apart from bacterial fermentation) to the swallowed air and saliva, to regurgitation of alkaline liquids from the intestine, from the discharge of gas into the stomach from the blood; any of those causes might be present in the flatulence of nervous dyspepsia. Frequently, however, such patients swallowed air and brought it up again, a condition which was readily recognised by observing the patient. In such cases the stomach was very often not distended. Eructation of liquids was a very common symptom in nervous dyspepsia and was not present in organic disease. The patient brought up small quantities of liquid not infrequently in order to show the medical attendant, and that might go on very frequently in the day and for several days. The liquid was usually acid and might be hyper-acid, but it was sometimes neutral, especially if the eructation occurred a long time after food. Many of those cases resembled cases of prolonged hiccough and sneezing which some of those neurotic patients showed, which when they occurred with stomach symptoms might be considered as reflex effects of gastric irritation. A typical case of nervous vomiting was one which occurred with very great frequency sometimes after meals, but not always, and one which although it was associated with the intake of food was not necessarily associated with pain in the abdomen. The vomiting sometimes lasted for long periods, it might be years, in attacks, and might be associated with great emaciation. The vomited matters were sometimes hyper-acid from hydrochloric acid, sometimes normal in acidity. In many of those cases, indeed, one found that there was no alteration in the secretory activity of the stomach. In one case, for example, there were recurrent pain and vomiting and the stomach secreted 0·2 per cent. hydrochloric acid in the test meal. Many cases of stomach neurosis complained of pain. It was an extremely difficult symptom for the observer to gauge. The pain in neurosis had, however, several characteristics which enabled one to recognise it in many cases. Although it might be localised in the epigastrium, and thus suggested the presence of organic disease, it would frequently cease in that spot and shift to another, perhaps quite outside the stomach region. Such epigastric pain in gastric neurotics frequently disappeared when pain in quite remote parts of the body supervened, such as headache or neuralgia; and some of the cases were very remarkable in which as the epigastric pain disappeared the headache supervened, and *vice versâ*. Its varying character was therefore one of the characteristics of the pain of gastro-neurotics. In the next place the pain might be the main symptom complained of by the patient referable to the stomach and it might not be accompanied by vomiting. In many cases, too, it was not directly referable to the ingestion of food. Tenderness was sometimes associated with pain. Local pain might be at one time impossible to distinguish from that of organic disease. If, however, there were several tender spots over the abdominal area the pain was of nervous origin and not due to organic disease. The cases in which pain was a marked feature were not infrequently diagnosed as ulcer of the stomach, but it was not difficult in some cases, owing perhaps to the absence of vomiting, to the shifting character of the pain, to the presence of several tender spots or to the interchangeability of the abdominal pain and pains in other parts of the body, to recognise the symptoms as due to a functional and not to an organic disease. Attention must be drawn to certain cases in which severe headache was a prominent and persistent symptom in a nervous disorder of the stomach. The stomach symptoms might be quite slight and the headache intense, but though the headache must be considered a reflex nervous symptom, it got better by proper diet and rest without the use of sedatives.

## OPHTHALMOLOGICAL SOCIETY.

*Exhibition of Models, Cases, and Specimens.*

A CLINICAL meeting of this society was held on Feb. 11th, Mr. E. NETTLESHIP being in the chair.

Mr. N. BISHOP HARMAN exhibited models, economically constructed, for the Diaphragm Test; also a Preparation of

Quassia Chips in the form of Chewing Gum for those who had to cease smoking on account of the onset of tobacco amblyopia. Men found the bitter very solacing.

Dr. A. LEVY showed a case of Obstruction in the Cilio-retinal Artery.

Mr. J. F. CUNNINGHAM showed cases of Aniridia, both sides of the family coming from Oxfordshire.—Mr. NETTLESHIP commented on the existence of heredity in connexion with the condition.

Mr. NETTLESHIP exhibited a number of drawings from his collection of Choroidal and other Hæmorrhages following upon blows on the eyebrows.

Mr. W. I. HANCOCK showed a child in whom there was a Pituitary Neoplasm with Ocular Symptoms.—Dr. J. MACKENZIE DAVIDSON exhibited skiagrams of the condition, showing an opacity in the brain in the region of the pituitary body.—Mr. NETTLESHIP, Mr. L. J. PATON, Mr. A. MACNAB, and Mr. J. H. FISHER discussed the question.

Mr. E. W. BREWERTON showed a case of Cyst of the Iris and Dr. RAYNER D. BATTEN a case of Hereditary Retinitis.

## UNITED SERVICES MEDICAL SOCIETY.

*The Use and Abuse of Alcohol.*

AT the last meeting of this society, Surgeon-General Sir ALFRED H. KEOGH being in the chair,

Fleet-Surgeon J. ANDREWS, R.N., read a paper on "Recent Research Work on the Use and Abuse of Alcohol." He pointed out that the drink problem was almost coeval with the history of mankind and that so far the results obtained by temperance legislation were disappointing. Owing to the unequal powers of resistance possessed by different individuals it was impossible to say definitely the amount of alcohol which could be taken without harm. At the same time the steady decrease in the amount of alcohol taken per head per annum pointed to a steady spread of temperance. He pointed out that alcoholism as the uncontrollable desire to drink to excess was generally acquired, though sometimes hereditary, and in the former connexion he pointed out the influence of old customs. Writers were by no means unanimous as to the harmfulness of alcohol, while Starke, amongst others, had pointed out the evils due to the abuse of tea and coffee, and the beneficial effects of alcohol as an antidote to theine and caffeine. With regard to the action of alcohol considered as a food, Fleet-Surgeon Andrews pointed out that it could only be looked on as such in a strictly limited sense owing to the impossibility of storing it in the body. Dr. W. H. R. Rivers had pointed out, however, that alcohol increased muscular work when administered to a person in a state of fatigue, being somewhat similar in its action on the condition produced by mental fatigue. The vaso-motor changes effected by alcohol and the benefits resulting therefrom were discussed, and Bianchi's investigations into the action of alcohol on the heart and circulation were mentioned, as was also the effect of alcohol on the blood pressure. After some further remarks on alcohol and its connexion with cirrhosis and its effect on the powers of resistance the speaker concluded that alcoholic drinks in general, and malt liquors in particular, were to a certain though limited extent foods, and that the effect of alcohol on the individual depended on the nature of the life led, whether sedentary or otherwise and whether indoor or open-air. Alcohol should be looked upon as unfavourable to pregnant women and to children, and favourable to muscular work in small amounts, especially when no great mental effort was involved.

Lieutenant-Colonel A. M. DAVIES, R.A.M.C., said that total abstainers asserted that alcohol was a poison, as to which there could be no doubt; they also denied that it was a food. Food was a substance which could produce heat and energy without deleterious effect. It was not correct to deny that alcohol was a food, although of course it did not form tissue. As to the use of alcohol in the army under the conditions of service, they had to consider the conditions of disease, forced exertion, and the special fatigues and exposures of war. As to climate, there was ample evidence from the experience of Arctic voyagers and Alpine guides and climbers in regard to cold, and from Indian experience as to heat, that alcohol was injurious; as to exertion the evidence was equally strong.

Sir VICTOR HORSLEY said that they had no right to call a substance a food which could not be advantageously utilised in the body. As regards it being considered as a food for the production of work, no one with any knowledge of military experiences would accept any results on the use of alcohol as a food likely to produce muscular energy. The death-rate among modern drinkers was higher than among abstainers; the incidence of sickness rate was higher than among total abstainers. In these circumstances they ought to teach that it was a higher national duty to adopt total abstinence rather than to indulge in so-called moderate drinking.

Dr. E. I. SPRIGGS said that it was striking to notice that whilst methyl, ethyl, and propyl alcohols and others all belonged to the same series and were classed as depressants, no attempts had been made to show the beneficial effects of any other members of the group except ordinary alcohol. Although tea and coffee were no doubt frequently abused, he did not think that any one whose work had taken him among the lower classes of our great towns could pretend for a moment that the harm done by their excessive use was in any way comparable to that done by excessive alcohol.

Sir R. HAVELOCK CHARLES, Fleet-Surgeon G. T. COLLINGWOOD, R.N., and Dr. COLLINSON also took part in the discussion.

Sir ALFRED KEOGH thanked Fleet-Surgeon Andrews for his excellent paper and Sir Victor Horsley for his contribution. He considered the discussion a very important one both to the army and to the navy.

## ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF OBSTETRICS.

*Radical Cure of Backward Uterine Displacements.—Exhibition of Instruments and Specimens.*

A MEETING of this section was held on Jan. 29th, Dr. R. D. PUREFOY being in the chair.

Dr. H. JELLETT, in a short criticism of the Radical Cure of Backward Displacements of the Uterus, began by discussing the attitude of gynæcologists in the matter. He considered that in all cases in which the patient's symptoms called for relief a radical operation should be performed in preference to the prolonged use of a pessary. As exceptions to this rule he mentioned puerperal displacements, as they could usually be cured by the temporary use of a pessary, and cases in which the circumstances or general health of the patient made operation inadvisable. He showed that, if a patient had to be curetted, the performance of a radical operation prolonged her stay in hospital only by a week. He divided the different radical operations into three groups: 1. Cases in which a major operation has been performed and in which the peritoneal cavity has been opened. For these cases he always concluded the major operation by performing a ventral suspension. 2. Cases in which the displacement is complicated by adnexal disease. In these cases he advised the opening of the abdomen, followed by ventral suspension. 3. Cases of uncomplicated backward displacement. In these cases he unhesitatingly advised Alexander's operation on account of its safety and its after-results. He then discussed Alexander's operation and referred to the statements of Herman and Galabin who considered it an essentially dangerous operation. In opposition to this he quoted statistics of 385 cases, practically all of which were successful and amongst which there was a single death from croupous pneumonia and unconnected with the operation. His own statistics were as follow: 44 cases were operated on. In 39 the usual double incisions were made and in five a single incision. There were thus 83 separate incisions and every one of these healed by primary union. One incision subsequently suppurated owing to the fact that the subcuticular suture broke during removal and was left behind. One patient died, but her death, which was from double croupous pneumonia, coming on about a week after the operation had no significance. In one case the uterus subsequently fell back and in this case only one ligament had been shortened. The other was left, as it was difficult to find, and as the operation had been already prolonged by the preliminary steps of curetting, trachelorrhaphy, and ligature of piles. In this case the uterus was in

a normal position when the patient was seen six months later but it had fallen back when seen two years later. Two patients at least were subsequently delivered and after delivery the uterus remained in a normal position. Dr. Jellett then stated in detail the reasons for considering Alexander's operation the operation of choice in cases of uncomplicated backward displacement of the uterus.—A discussion followed and Dr. JELLETT replied.

Mr. J. S. ASHE demonstrated a new principle for application to Bozemann's catheter and Braun's hollow sound by means of which every part of the uterus could be dealt with without fear of undue pressure. The instrument which he exhibited allowed all the fluid to come back and with it the uterus could be flushed out. It was simple and cheap and could be absolutely sterilised.—Dr. PUREFOY considered that the instrument had a wide range of utility.

Dr. B. A. H. SOLOMONS exhibited specimens of Adeno-carcinoma of the Vulva. He said that adeno-carcinoma of the vulva was such a very rare condition that he thought the case would be of interest to bring before the section. This he was able to do by the kind permission of Mr. E. H. Tweedy, the Master of the Rotunda Hospital. The patient, aged 33 years, married eight years, IV-para, was admitted in November, 1908, to the Rotunda Hospital. She had noticed a lump in the vulva two weeks before admission and this ruptured just before she entered the hospital. Pruritus was absent. The patient was blanched from loss of blood. On examination it was found that there was a large stinking mass protruding from the vulva which seemed to spring from inside the right labium just at Bartholin's gland. The tumour was evidently a hæmatoma. On its removal an excavated sloughing sore came into view which had all the appearance of acute phagedæna. A microscopic examination showed nothing save blood clot. The cavity was plugged with iodoform gauze. Thinking that perhaps the affection was syphilitic the patient was given a mixture of hydrargyri perchloridum and potassium iodide. Insufflation with calomel was also used. Two weeks later, as there were no signs of improvement, the excavated sore was opened up, scraped, curetted, and thoroughly swabbed out with iodised phenol. In spite of this treatment, combined with keeping the wound plugged with peroxide of hydrogen, alternating with formalin 1 in 3, together with the antisyphilitic treatment, the phagedænic sore spread with alarming rapidity, and it became evident that a condition of malignancy probably existed: this despite the fact that no glandular enlargement existed anywhere and the negative microscopic findings. Therefore heroic measures were considered to be indicated, so under an anæsthetic the parts were explored and the curette, knife, scissors, cautery, and nitric acid were freely used in an endeavour to stay the disease, whilst large portions of the tissue that had not sloughed were removed for microscopic examination. Although the infection spread over to the other side, yet the urethra seemed in no way implicated and lay in the midst of the disease as an isolated tube. Dr. R. J. Rowlette, pathologist to the hospital, reported that the case was one of adeno-carcinoma of the vulva. This diagnosis was only arrived at after he had cut a great many sections. There were no apparent primary growths in any part of the body, and the only possible original seat of the disease seemed to be in Bartholin's gland.

Dr. J. R. FREELAND exhibited specimens from a case of Ruptured Extra-uterine Pregnancy taken from a patient, 35 years old, who had been married for 15 years, and had had four children and four abortions. She had come complaining of hæmorrhage and menstruation overdue two weeks. On examination she was found to have retroverted uterus and a small tubal mass in the left side. He thought she had a tubal pregnancy. She would not remain in hospital, but had considerable pain when she went home, so returned on the next day. On opening the abdomen he found the pelvis full of blood. The fœtus had escaped into the abdomen and was attached by the cord to the rest of the ovum in the tube. The ovary was left in position and she had done very well.

Dr. H. FITZGIBBON exhibited a specimen of Double Pyosalpinx from a patient, aged 31 years. Her menstrual periods were normal and the first symptom was severe pain. The abdomen being opened Dr. FitzGibbon attempted to pull up the intestines, when nothing would move, and he found the whole of Douglas's pouch filled with adherent small intestines. He got the whole of the tumour out without tying any vessels as they had been obliterated. He closed the stump of the cervix with two interrupted sutures and packed the pelvis with gauze. Two days after the operation the pulse went up to 110, though the temperature neither then nor subsequently went above 99° F. He withdrew the gauze and put in a long drainage-tube. On the third day the pulse climbed gradually up to 160 and on the following night it fell to 140. He then put in a shorter tube. The patient continued to improve, but on the next morning he found a smell of urine. He replaced the tube with one of rubber and concluded that the drainage-tube had sloughed through the bladder. He kept the tube in until he got a diminution in the amount of pus, although some still came away in the urine. The patient made a good recovery. The case showed the danger of hard drainage-tubes put through the abdominal wall into the pelvis, and also showed how pyosalpinx, which was obviously chronic, could set up an infection of the pelvis, although it was stated that if left for 12 months the pus would become sterile.—Dr. PUREFOY said that he did not think there was any positive knowledge as to when infection became sterile. His own experience was that pyosalpinx might remain quiet for years and under fresh stimulation might light up again. He was satisfied that where there was reason to believe a swelling to be a pyosalpinx it was always a possible danger and should be dealt with in most cases by radical operation. Most of them would be inclined to drain in the direction of the vagina, still it was surprising what effective drainage could be carried on through the abdominal wall.—Dr. FITZGIBBON, in reply, said that he started with the intention of draining through the vagina, but from start to finish he did not see the bottom of Douglas's pouch, and he had not the least idea where the ureter was, and at the end of two hours' operation he drained in the easiest direction.

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LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Feb. 5th, Dr. W. H. Cheetham being in the chair.—Dr. W. McGregor Young opened a discussion on Anæsthetics. In comparing the relative safety of ether to chloroform he said that a committee of the British Medical Association had found that chloroform was seven times more dangerous to life than ether, but in his opinion, if its finding had been that chloroform was 70 times more dangerous, he would still have thought the proportion understated. Ether, as an anæsthetic vapour, administered with reasonable care was not a dangerous drug at all, whereas chloroform even in skilled hands might be attended by fatal results, and he did not think any apparatus had brought its administration within the limits of absolute safety. As regards the after-effects with which ether was credited in the way of bronchitis, broncho-pneumonia, and so on, this was so much a question of personal experience as to make general conclusions of small value. For his part the more he gave of ether the less was he inclined to blame the anæsthetic and the more its faulty administration, the absence of warmth during the operation, in the theatre, the corridor, the ward, or bedroom, and the after-care of the patient in the way of inhalation, posture, &c. As regards ethyl chloride, the eccentricities and even fatalities of this anæsthetic might be due to a failure to apreciate the enormous difference that the warmth or coldness of the apparatus made in so volatile a drug. The status lymphaticus was discussed; acid intoxication as a cause of death after chloroform was not always recognised. He had seen one death lately from this cause in an adult. The patient had had anorexia for weeks and was starved in consequence from an unrecognised tuberculous peritonitis. The strangulation of a ventral hernia necessitated urgent operation. Chloroform was given with the result stated. He had tested the urine in 40 cases for acetone and had found it in one before and in five after operation. In none were there any untoward effects. Ether was the anæsthetic given.—Mr. T. Pridgin Teale supported Dr. McGregor Young's conclusions as to the safety of ether compared with chloroform, and drew attention to the increasing employment of the former anæsthetic. He also outlined the history of the introduction of ether as an anæsthetic.—Dr. J. B. Hellier said he thought that bronchitis and pulmonary complications generally were

much more frequent after the administration of ether than after chloroform had been given, and that deaths from these causes were not infrequent. In estimating the safety of an anæsthetic, therefore, not only deaths during the administration, but also those occurring later owing to its secondary effects, had to be taken into consideration.—Mr. H. Littlewood showed: (1) A Meckel's Diverticulum removed from the Hernial Sac of a child three months old; and (2) a Stone removed from a Horseshoe Kidney.—Dr. A. G. Barrs showed a case of Gonorrhœal Arthritis treated with vaccine.—Dr. Alex. D. Sharp showed a case of Syphilitic Affection of the Nose and Pharynx and Advanced Tuberculous Disease of the Larynx.—Mr. W. Thompson exhibited a Large Intestine showing two Malignant Growths, one of which perforated after ileo-sigmoidostomy.—Mr. J. F. Dobson showed an Omental Band causing attacks of intestinal obstruction simulating appendicitis.—Dr. T. Wardrop Griffith showed a case of Mitral Stenosis with Phthisis.—Cases and specimens were also shown by Dr. D. Sanderson Long, Mr. J. Basil Hall, Dr. E. O. Croft, Mr. B. G. A. Moynihan, Dr. Hellier, Dr. G. Oldfield, and Mr. H. Secker Walker.

GLASGOW MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Feb. 5th, Dr. J. Walker Downie, the President, being in the chair.—Mr. James MacLean showed a case of very severe and protracted Cerebro-spinal Meningitis with complete recovery in a female child, aged four and a half years. The onset was sudden and the temperature was very variable, frequently dropping from 103° F. to normal in a very short time and as quickly rising again. After seven months' acute illness the temperature fell to subnormal and did not again become febrile. Meningeal symptoms gradually passed off and by the eleventh month she was well but naturally very weak and emaciated. Recovery appeared to have been largely due to the large quantities of nourishment she was able to take. A striking feature in the case was the exudation of a sticky serous fluid from the back of the neck.—Dr. J. Kerr Love described a case of Peri-sinus Abscess, with mural thrombus in the sinus, basal meningitis, and tuberculous tumours in the pons, cerebellum, and cerebrum. He considered there was a danger of the aurist too often considering tuberculous ear disease to be primary or secondary only to disease of the temporal bone, whereas many were hopeless cases of general infection. Such theories led to aggressive surgery and perhaps to the opening of the cranial cavity in hopeless cases. Taking the view that the affection in the temporal bone was carried from a distance by the blood stream, the primary lesion being in the thorax or abdomen, more conservative treatment was called for, and one should be slow to open the cranial cavity unless localising symptoms of a curable condition declared themselves.—Dr. Henry Rutherfurd showed a girl, aged eight years, the subject of Osseous Ankylosis of the Jaw after otitis. The condyle and neck were excised and she could now open the mouth well, but the teeth, especially the incisors, were not accurately apposed. He also discussed some cases of Contusion Injuries of the Abdomen, illustrating how conflicting symptoms might be. He thought that in cases of doubt it was much better to operate. A specimen of Rupture of the Colon by bursting (*éclatement*) was also shown.

HARVEIAN SOCIETY OF LONDON.—A clinical evening of this society was held at St. Mary's Hospital on Jan. 28th.—Dr. G. William Hill demonstrated Direct Vision Laryngoscopy and Tracheo-Bronchoscopy. Using Brüning's or Chevalier Jackson's instruments he showed: (1) growth on the right vocal cord; (2) pachydermia of cords; (3) tuberculous growths; (4) tuberculous laryngitis, where the ulcerations had healed under daily direct vision treatment in hospital; (5) subacute laryngitis; and (6) chronic laryngitis. He also demonstated the bifurcation of the trachea. After cocainisation of the larynx, a tracheoscope was passed through the vocal cords during inspiration to a distance of three inches. After further cocainisation Brüning's extension bronchoscopic tube was passed through the tracheal tube to the bifurcation. No coughing occurred in any of these cases, showing the efficiency of Mr. Harrison's method of cocainisation. Dr. Hill also showed the instruments used in œsophagoscopy and related a case in which he had used them. He showed Chevalier Jackson's Gastroscope, together with the laryngeal and tracheal instruments by Kirstein and Killian, which led up to the perfected instruments of Brüning and Jackson.—Mr. Cecil I. Graham exhibited by direct vision laryngoscopy the condition of a tuberculous patient from whom an interarytenoid tuberculoma had been removed under chloroform by the aid of Brüning's laryngoscope.—Mr. M. Fitzmaurice-Kelly showed a case of Endothelioma of the Tonsil with enlargement of the cervical glands; and also a case of Osteo-Arthritis of the Left Metatarso-phalangeal Joint of the Great Toe, associated with Cystitis.—Dr. W. H. Willcox showed a case of Collapsed Lung with Secondary Fibrosis in a child. He discussed the possibility of congenital bronchiectasis and fibrosis following phthisis.—Mr. E. Laming Evans showed a case of Congenital Dislocation of the Left Hip of the Supra-cotyloid Variety in a girl, aged seven years. There was a complete absence of lordosis. Trendelenburg's sign was present.

LIVERPOOL MEDICAL INSTITUTION.—A meeting of this society was held on Feb. 11th, Mr. T. H. Bickerton, the President, being in the chair.—Dr. W. B. Warrington described a case of Myasthenia Gravis in a woman aged 32 years. The ptosis often so readily seen was not marked, though it could be produced to some extent by fatigue. There was extreme weakness of the masseters, which gave the characteristic myasthenic electric reactions. In other ways the case was quite typical.—Dr. E. E. Glynn referred to a case which commenced with giddiness, double vision, and ptosis, the latter being transitory. There was considerable loss of voluntary muscular power of the legs after exercise or excitement and death occurred in 12 months from bulbar symptoms, these developing and proving fatal in four days.—Dr. J. Murray Bligh and Dr. Glynn communicated a note on the Diagnosis of Typhoid Fever by Bacteriological Examination. Their method was based on lines suggested by Coleman and Buxton of New York, particularly in the employment of sterilised ox bile medium. In eight out of 15 cases of typhoid fever examined in the second and third week they obtained positive results. The method proved of distinct value in two cases in which the nature of the disease was obscure.—Mr. K. W. Monsarrat read a paper on Cancer of the Breast. He discussed the difficulties of early diagnosis. He described the extent of the operation undertaken in 37 cases and their after-histories. There was no recurrence in 20 cases during a period extending from five years to one year. Recurrence had taken place in 14 cases during periods ranging from four years to within one year.—Mr. F. T. Paul referred to the importance of removing breasts affected with intractable involution mastitis before they became malignant. He thought the modern operations gave decidedly improved results. He had removed the breast over 200 times during the last five years without a death and had no death since 1901. In 30 years he had had only four deaths from breast operations—two from sepsis and two from acute mania.

# Reviews and Notices of Books.

*Scientific Memoirs by Officers of the Medical and Sanitary Departments of the Government of India. No. 35, Blackwater Fever.* By Captain S. R. CHRISTOPHERS, M.B. Vict., I.M.S., and Dr. C. A. BENTLEY. Issued under the authority of the Government of India by the Sanitary Commissioner with the Government of India. Simla: Government Monotype Press. 1908. Pp. 239.

DAY by day the evil influence of certain tropical diseases in retarding the economic development of some of our colonies is becoming more and more recognised in official as well as in commercial circles. Blackwater fever is one of the latest cases in point. It has in the past exacted a heavy toll, in the shape of death or disablement, from Europeans engaged in work in certain tropical regions under British rule. Recently it has been admitted that the precise nature of the disease was uncertain, and consequently that there was doubt as to the most appropriate preventive measures which should be applied. This doubt and uncertainty led to the appointment almost simultaneously of two separate

investigations into the nature of blackwater fever. The first, financed jointly by the Colonial Office and the Liverpool School of Tropical Medicine, sent its investigators to tropical Africa early in 1907; they have recently returned to this country and their report is expected to be published shortly. The second inquiry was ordered by the Government of India which in 1907 dispatched Captain Christophers and Dr. Bentley on special duty to the Duars, a district which lies along the foot of the Eastern Himalayas between Nepaul and Assam, where all the conditions associated with intense malaria and blackwater fever are to be found abundantly. In the Duars district there has been of late a considerable development of the tea-planting industry which has caused an influx of new population from a distance, including coolies, Babu clerks, and European officials. As the manifestations of blackwater fever are seen chiefly in the foreign and not in the indigenous native population, the locality selected for the investigation appeared particularly appropriate.

In the report which has just been issued in the form of a "scientific memoir" the main views hitherto put forward as to the nature of blackwater fever are discussed in detail, and it is pointed out that none of them are entirely in accord with the observations made in the Duars. The authors do not altogether agree with Scheube and others that the disease is a pernicious form of malaria, nor with Koch and his supporters that it is merely a quinine intoxication, nor yet do they hold with Manson that it is a distinct disease due to a specific organism. It is admitted that the geographical distribution of blackwater fever is the same as that of intense malaria, and that those who suffer from blackwater fever invariably suffer previously from repeated attacks of malaria. The reporters therefore adopt the opinion that blackwater fever is the result of an induced condition brought about by repeated malarial infection, lasting over a certain time. It is pointed out that there is no incompatibility between the view which asserts that quinine administration may produce blackwater fever and the malarial hypothesis, if it be admitted that the drug is only a determining cause acting in conjunction with a condition induced by previous intense malaria. As regards the exact process which brings about what the authors describe as the "terrific destruction of red cells" which characterises the disease, they say that they have as yet no certain knowledge, though they incline to agree with those who have formulated the opinion that blackwater fever is due to the action of a specific hæmolysin which may be produced in some way as a result of malaria; but whether it is, as some believe, in the form of a toxin derived from the malarial parasite it is not yet possible to say. Further research in this direction appears to be necessary.

As to prophylaxis Captain Christophers and Dr. Bentley look upon this as simply the prevention, so far as possible, of malarial infection, and the prompt and efficient treatment of this disease with a view to prevent the occurrence of relapses. Quinine prophylaxis, they assert, should be pushed. In the Duars it has now become the custom with a large proportion of the European residents to take quinine systematically, with the result that malaria among them has become greatly reduced, and the number of cases of blackwater fever is now extremely small. Indeed, during the last 12 months the only three cases reported in the Duars occurred among those who professed not to believe in quinine and only took it when they were ill. With respect to treatment it is anticipated that good results are likely to be obtained from serum-therapy, but further experiments will be necessary before this can be adopted. Annexed to the report are a number of appendices, including a record of 34 cases of blackwater fever investigated by the authors with the aid of the most modern methods; also a list of all the recorded cases of blackwater fever in the Duars tea-gardens and those in adjacent Assam territory since 1889. There is also appended a valuable bibliography containing some 97 references.

We shall look forward to further reports on this subject from these experts, and we shall be interested also to see if the report of the other Commission as a result of its inquiries in tropical Africa confirms the observations and conclusions of the Indian investigators.

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*The Bone Marrow: A Cytological Study.* By W. E. CARNEGIE DICKSON, M.D., B.Sc. Edin., M.R.C.P. Edin., Lecturer on Pathological Bacteriology and Senior Assistant to the Professor of Pathology in the University of Edinburgh. With coloured plates and microscopical photographs by RICHARD MUIR. London: Longmans, Green, and Co. 1908. Pp. 160. Price 42*s.* net.

THIS is purely a cytological study and represents the results of a portion of the work submitted as a thesis for the degree of M.D. in Edinburgh, for which the author was awarded a gold medal. The Carnegie Trust contributed a grant of £50 towards the expenses of publication, chiefly for the illustrations. All the usual methods were adopted for the study of the red marrow and more than 4000 microscopical preparations, over 3000 of which were from the human subject, were examined.

Bone is perhaps one of the most unstable of tissues—with the exception only of the blood itself. As the bone marrow is the seat of the formation of the red blood corpuscles and by far the greater proportion of the leucocytes, and as it undergoes variations, both physiological and pathological, with remarkable rapidity, its study is of the greatest practical importance. The author's historical introduction is short and occupies a page and it begins with Golgi's observation of the changes undergone by the marrow in cases of small-pox (1873). At first the author studied the changes produced in the bone marrow in pneumonia, but ultimately over a hundred representative cases of disease in the human subject were included. The varieties of normal bone marrow are classified as (1) embryonic; (2) red or lymphoid marrow, erythroblastic and leucoblastic; and (3) fatty or yellow marrow; the pathological varieties (4) fibroid and (5) gelatinous, acute and chronic. Each of these is represented by coloured drawings or reproductions of photographs.

The author states that the reactive changes in bone marrow in disease may be classified in two great groups—the leucobiastic and the erythroblastic. The former may be subdivided into four groups according to the particular leucocyte most affected, while the latter includes two subdivisions, the normoblastic and megaloblastic. Most frequently, however, when the tissue reacts in disease it presents a varying admixture of several of these types. An increase in the neutrophile series is found in the majority of acute infective diseases, whether due to local staphylococci and streptococci or to general conditions such as pneumonia, septicæmia, and so on. The megaloblastic type of red cell is most typically seen in cases of pernicious anæmia. The description of the cytology of the marrow occupies about 45 pages and the cells present are classified as (1) blood-forming cells; (2) giant cells; (3) cells of the connective-tissue type; and (4) endothelial cells. These are severally described and figured. The development of the polymorphonuclear leucocytes, as found in the blood, is traced in detail and the story of its development is diagrammatically represented in a coloured scheme. The degenerative changes occurring in the cells of the leucocyte-forming series were specially studied in animals killed by snake venom and are illustrated in Plates II. and III. We find on p. 26 that the same chemiotaxis is ascribed to "Pfeiffer." Surely this is a

mistake. The author, instead of going to the prime source, contents himself with the remark, "Quoted by Ewing."

Regarding the disappearance of the nucleus from the normocytes and normoblasts the author favours the view that it is not extruded but disappears within the cell body by a process of fragmentation or solution or both. The giant cells are specially dealt with. The term polykaryocyte —i.e., a multi-nucleated phagocytic cell—is taken as equivalent to osteoclast, while the term megakaryocyte is applied to peculiar giant cells with characteristic, highly complex, but a single "basket-nucleus." These very readily undergo degenerative changes in toxic conditions and acute diseases, and an excellent row of serial sections of one of these is given in Plate V. The source of these cells the author regards as still *sub judice*. Their functions also are obscure.

The work is well got up, the plates are excellent, and not the least valuable are those showing the naked-eye appearances of the marrow in various diseases—e.g., pneumonia, rheumatic pericarditis, gastric ulcer, septicæmia, endocarditis, and pernicious anæmia. In an appendix are given a list of cases and an excellent bibliography.

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*A Book of Simples: a Faithful Copy of a Still-room Book (Early Eighteenth Century).* With an introduction by H. W. LEWER, and a Cookery and Herbal Bibliography. London: Sampson Low, Marston, and Co., Limited. 1908. Pp. 226. Price 14*s.* net.

EXPERTS to whom the original MS. of this Book of Simples has been submitted consider that it extends over a period of about 50 years, terminating in the middle of the eighteenth century. The MS. was found in the library of a distinguished Essex antiquary; it was composed of vellum bound in green and gold, and the writing was in the hand of several persons. The spelling and absence of punctuation have been reproduced, Mr. Lewer tells us, in all their original quaintness. Strictly speaking, a simple is a medicinal plant, not compounded or mixed, supposed to be a specific remedy for a certain symptom or disease. In the olden days the lady of the manor was obliged to act as chemist and leech for both man and beast in ordinary ailments, and even in emergencies, such as "the Palsey," her remedies were in request. Hence the importance of possessing a Book of Simples containing recipes handed down from previous generations, especially recipes against which the earlier writers had marked the confident "Probatum est." Recipe No. 516 is a good example: "To stop bleeding if a veine be cut asunder. Take the shell of goose or hen that the chick comes out of when hacht and make it into powder being first burnt and cast thereon and it stanch it presently. Probatum est." Recipe 303 is approved for the wind. It consists of a quart of white wine to which are added parsley seed, aniseed, fennel and carroway seed, liquorice, nutmegs, lemon, spearmint water, treacle, and "when you have occasion drink of this 3 or 4 mornings when you rise and last at night and let it be blood warm when you drink it this is excellent for what is mentioned."

Quite half of the recipes in the collection are for cookery—cakes, fish, brawn and meats, puddings, jams, and sweets. We think that most women, reading these directions, will desire to test them, so fascinating and tempting do they sound in the quaint language of that age, especially when a personal touch is added such as that in recipe 384: "Ye Lady Downs thinks Jamaca pepper better than the black or white pepper." Those who take no interest in the old-fashioned remedies will at least derive pleasure from reading the cookery recipes and we venture to say that benefit also will be derived from a trial of some of the appetising dishes so carefully described by the housekeepers of two centuries ago.

## LIBRARY TABLE.

*The Practical Medicine Series.* Comprising ten volumes on the year's progress in Medicine and Surgery. Under the general editorial charge of GUSTAVUS P. HEAD, M.D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. Vol. II., General Surgery. Edited by JOHN B. MURPHY, A.M., M.D., LL.D., Professor of Surgery in Rush Medical College. Series 1908. Chicago: The Year Book Publishers; and Glasgow: G. Gillies and Co. Pp. 614. Price 8*s.* net.—We have spoken favourably of earlier issues of this volume on surgery. Some such work as this is almost a necessity for surgeons if they wish to keep pace with the onward progress of surgery. On the whole the book is well arranged, but in some cases the abstracts might reasonably have been briefer. In Dr. W. J. Mayo's account of the present-day surgery in England we do not quite recognise ourselves. For instance, we are told that "throughout Great Britain chloroform is used almost exclusively as an anæsthetic." This is certainly incorrect; in many hospitals it is used very little. We are also told that "the old-fashioned sea sponge is still the favourite." In the majority of hospitals of England the marine sponge has been discarded for all operations except some procedures on the throat, so it would be interesting to know what hospitals were visited by Dr. Mayo and it would have been only fair to mention them. The periodicals from which the information has been obtained are numerous and the reports are unbiased. The classification adopted is convenient and it favours the rapid finding of any information needed, and the full index is also valuable. The book doubtlessly owes much to the care and knowledge of the editor, Dr. J. B. Murphy, and the introduction written by him draws attention to the chief advances made during the year. The illustrations are fairly numerous and a few are coloured, which are very good. Some of the illustrations seem to be merely reproductions of pen and ink sketches and so are a little crude. We can recommend this book to surgeons.

*The Practical Medicine Series.* Vol. VIII.: *Materia Medica, Therapeutics, Preventive Medicine, and Climatology.* Edited by GEORGE F. BUTLER, Ph.G., M.D., HENRY B. FAVILL, A.B., M.D., and NORMAN BRIDGE, A.M., M.D. Chicago: The Year Book Publishers; and Glasgow: G. Gillies and Co. Pp. 353. Price 5*s.*—The sections in this volume of the Practical Medicine Series give an excellent summary of the main facts in connexion with materia medica, therapeutics, preventive medicine, and climatology. Amongst other new suggestions in the section on materia medica we note that Ferguson speaks highly of adrenalin chloride in the treatment of snake-bite, considering it to be the remedy on which we can place our chief reliance after antivenene. Dr. C. B. Ker lauds the treatment of enteric fever by calomel, as he considers this drug to be the superior of all antiseptics in the treatment of this fever. The good effect of chloretone in sea-sickness is noted, whilst a remarkably good result in the treatment of sunstroke by iced water enemata is recorded. The action of santonin in relieving the crises of tabes dorsalis is set forth. In the section on preventive medicine we find detailed the most recent facts relative to malaria, yellow fever, and plague. The conveyance of disease by insects and by rats is succinctly considered. Venereal diseases receive full attention as to their prophylaxis, while the subject of prostitution is considered as regards the methods of its control on the continent. The book forms a sound *résumé* of the advances of medicine.

*The Encyclopædia of Gardening.* By T. W. SANDERS, F.L.S. London: W. H. and L. Collingridge. Pp. 466. Price 3*s.* 6*d.* net.—With great self-restraint we do not quote

Bacon's dictum about a garden, but Mr. Sanders's careful compilation should be found of great use to anybody who has a garden and who takes any interest in it at all. The book is arranged alphabetically and the names of the plants as a rule are given under both their Latin and English titles, the latter coming first. The arrangement is as follows: first comes the name of the plant, then the botanical order, then its description, and then follow directions for culture. In some instances a description of the various species is given. There is an interesting introduction dealing with gardens both old and new, and since the days of the admirable botanical dictionary of Paxton we have not seen a book which contains more information in as little space as this publication.

*Whitaker's Peerage, Baronetage, Knightage, and Companionage*, 1909. London: Joseph Whitaker. Pp. 793. Price 5*s.* net.—This peerage is, in our opinion, the best of the smaller peerages, although, of course, it does not pretend to compete with "Burke" or "Lodge." But it contains a vast amount of information and that very clearly set forth. A new feature of this current issue is a glossary of official terms which will be found most useful.

# Reports and Analytical Records
FROM
# THE LANCET LABORATORY.

## THE ARSENICAL IRON WATERS OF RONCEGNO.

(LONDON AGENT: RICHARD DAVIS, 20, MADDOX-STREET, REGENT-STREET, LONDON, W.)

THE water of Roncegno is distinguished from the waters of its class by containing a remarkable quantity of arsenic. We have not examined a natural mineral water, at all events, containing so much arsenic. According to our analysis, the arsenic, calculated as arsenic acid ($As_2O_5$), amounts to 0·05 gramme per litre. Associated with the arsenic is also iron, probably present for the most part in the form of persulphate. There are present also distinct quantities of copper, manganese, cobalt, and nickel. The balance of the mineral constituents is accounted for by sodium sulphate, the total mineral salts amounting to 4·80 grammes per litre. There can be little doubt that the water owes its remarkable mineral composition to its contact with a bed of pyrites at its source—pyrites containing, besides sulphides of iron, arsenic compounds and metals of the iron group and copper. Oxidation converts these sulphides into sulphates, while arsenic is similarly converted into arsenic acid. Approximately the water may be said to contain per litre according to our analysis 2·87 grammes of persulphate of iron, 0·874 gramme of sulphate of calcium, 0·870 gramme of sulphate of sodium, and 0·05 gramme of arsenic calculated as arsenic acid. These results agree with an elaborate analysis made by Professor Nasini at the University of Pisa, who reports also that the water is strongly radio-active. Roncegno is situated in a charming valley in the Austrian Tyrol and is reached from Innsbrück in six hours or from Venice in four hours. We understand that the place is provided with ample accommodation especially for treatment, while there is much to attract the visitor in the way of picturesque surroundings and social amusements. According to Professor A. de Giovanni of the Medical Clinic of Padua the water is very valuable internally for improving the state of the blood in any case of disease where the abnormal conditions are the consequence of a progressive malady or else the effect of an originally delicate constitution. If in these cases, he adds, there exjst functional anomalies of the general nervous system or of one special section which may arouse suspicion or even actually prove the existence of that pathological state called neurasthenia, then the doses, and above all the undertaking of the entire Roncegno cure, must be regulated according to the individual. In addition to its value in common nervous disorders the water has been employed also with decided advantage, he states, in anæmia, leukæmia, Addison's disease, and Basedow's disease, and in skin and uterine troubles. He also speaks of the water possessing a special "dinamizzazione," which is not traceable to its chemical composition but which indicates the marked radio-active properties which have been shown to exist by Professor Nasini and Professor Taramelli. The water may be obtained in this country, but presumably the best therapeutic results are obtained when the treatment internally and externally is regularly carried out at Roncegno in the charming and healthy environment of the Austrian Tyrol.

## DIAMALT.

(THE BRITISH DIAMALT CO., 11 AND 13, SOUTHWARK-STREET, LONDON, S.E.)

About two years ago we had occasion to examine this preparation which then showed active digestive properties so far as regards converting starch into dextrin and sugar. Active as according to our experiments diamalt proved to be the improved preparation now placed upon the market shows an even greater degree of diastasic activity, besides which the flavour is very satisfactory and such as points to the use of the finest maltings for the purpose. According to our experiments diamalt digests nearly seven times its weight of starch at body temperature, while at higher temperatures it digests over 13 times its own weight of starch. It is obvious, therefore, that diamalt may be trusted to do its digestive work. It contains 27·5 per cent. of moisture and 1·25 per cent. of mineral matter which consists chiefly of the phosphates of lime and potassium.

## BULL DOG LIGHT ALE.

(ROBERT PORTER AND CO., CRINAN-STREET, KING'S CROSS, LONDON, N.

This ale, according to our examination, is accurately described, showing a comparative low gravity and 2·75 per cent. of malt extractives. We could find no preservative present except the hop, and, as a matter of fact, the beer is rather heavily bittered. The sample was in sound condition and was practically free from volatile acid in the form of acetic acid. The ale is introduced chiefly for consumption in hot climates and hence is brewed lightly.

## CREMOGEN.

(THE TROMMER COMPANY, 27, CHARTERHOUSE-SQUARE, LONDON, E.C.)

Cremogen is a new and satisfactory basis for the preparation of an ointment. It is a very agreeable preparation and should be well adapted for the purpose of compounding ointments, for its use promotes the absorption of the medicament. Its special adaptability as an unguent rests on the fact that cremogen has a considerable absorbent power for water which renders it a generally useful excipient. It is thus an excellent vehicle for iodine, ichthyol, or the alkaloids, such as morphine and cocaine. It is also most convenient for use with an antiseptic such as borax. Cremogen leaves no grease or stickiness when rubbed on the skin and it has an agreeable soothing effect.

## NATURAL FOODS.

(CHRISTIAN'S NATURAL FOOD COMPANY, 54, DUKE-STREET, OXFORD-STREET, LONDON, W.)

There is no need to submit these foods to analysis since they all represent the foods practically in their natural form, their dietetic value being unaltered by any manufacturing process. We can recommend in particular the "unfired" bread which is a kind of whole wheat or oat cake. It is suggested that this bread (and we are prepared to accept the

suggestion) gives a stimulus to peristaltic movement. "Cereal flakes" are similarly slightly laxative and consist again of the entire cereal. Other samples submitted to us included "protoid" nuts and a nut butter which in their way are also excellent foods.

### VERONAL SODIUM.

(E. MERCK, 16, JEWRY-STREET, LONDON, E.C.)

We have already pointed out that veronal sodium is a soluble veronal compound, whereas veronal itself is, comparatively speaking, insoluble. We have received specimens of the pure compound from the above manufacturer of fine chemicals and have found them to be freely soluble in cold water. This fact renders the product particularly adapted for rectal and hypodermic administration.

### SCOTCH WHISKY.

(W. ANDERSON AND CO., 36, MARK-LANE, LONDON, E.C.)

This specimen is described as "three-star old liqueur Scotch whisky." According to our analysis its alcoholic strength was 47·13 per cent. by volume. The extractive matters amounted to 0·18 per cent. From its flavour and a consideration of the amounts of the various secondary products present, as, for example, the furfural, ethers, aldehydes, and higher alcohols, we conclude that the proportion of all-malt spirit present is considerable. The whisky has a marked though mellow flavour of malt and we can take no exception to the statement that the spirit has been thoroughly matured. It is thus suitable for dietetic purposes when an alcoholic stimulant is permitted.

### (1) PYRENOL; AND (2) ARHOVIN.

(REITMEYER AND CO., 63, CRUTCHED FRIARS, LONDON, E.C.)

(1) Pyrenol is described as of value in bronchitis, asthma, and whooping-cough, and further it is said also to act much in the same way as salicylic preparations in gout and rheumatism and has been well borne in cardiac affections. The substance, specimens of which we received in tablet form, has a marked odour of thymol, and in fact contains thymol in a somewhat complex molecule comprising the benzoic and benzoyl groups combined with sodium and therefore serves as a powerful antiseptic. It appears to have given good results in respiratory diseases. (2) Arhovin also contains thymol and benzoic acid with dimethylamine. It is a yellowish oily liquid insoluble in water and is administered in capsules. It is described as possessing almost a selective fatal action on the specific organism of gonorrhœa. It has been used also in cystitis and pyelitis.

### DIABETIC FOODS.

(R. GREEN AND SONS, 76, CHALK FARM-ROAD, LONDON, N.W.)

We have received from the above manufacturers a number of starchless and sugarless foods which are we find correctly so described. The samples included plain bread and bran bread, sweet rusks, plain rusks, sweet biscuits, plain biscuits, fancy biscuits, and cocoa. They were all found to be free from starch and sugar, and what is equally important they were quite palatable foods. There was a little starch in the cocoa due to the cocoa itself. The sample of plain bread gave on analysis the following results: moisture, 49·00 per cent.; mineral matter, 1·60 per cent.; protein, 31·75 per cent.; and fat, 17·65 per cent. The flavour, texture, and the appearance of the bread were satisfactory. The bran bread gave on analysis the following results: moisture, 50·00 per cent.; mineral matter, 2·30 per cent.; protein, 26·98 per cent.; and fat, 20·72 per cent. The bran present in this bread is calculated to excite peristalsis and therefore to relieve constipation.

### PURE SILICA WARE.

(THE THERMAL SYNDICATE, LIMITED, WALLSEND-ON-TYNE, NEPTUNE BANK.)

The above syndicate has afforded us recently an opportunity of making some laboratory experiments with their fused silica ware which can be had in the form of tubes, flasks, basins, crucibles, muffles, and so forth, for laboratory use. In many cases a pure silica basin may be used where before it was only possible to employ platinum. It stands even sudden heating quite well, resists the action of strong acids (with the exception, of course, of hydrofluoric acid), and remains fairly constant in weight during use. The basin we experimented with survived perfectly such common operations as cleaning with sand and hydrochloric acid, the ignition of organic substances for the determination of ash, and the fusion of neutral salts. Silica is, however, acted upon by fused alkalies, since, of course, it readily forms silicates. The introduction of pure silica for certain laboratory purposes is calculated to replace to a considerable extent the costly platinum vessels hitherto used, for in a great number of cases the silica apparatus answers equally well.

## New Inventions.

### A MAGNIFYING OTOSCOPE.

I HAVE been accustomed for long to use an ophthalmoscope with an ordinary speculum for inspecting the membrana tympani. I use it as for the indirect method of ophthalmoscopic examination, holding the lens at the top of the speculum and slightly inclining the lens to get rid of the reflection of the ophthalmoscope from it. But it is difficult, with one hand for the mirror, to manage, with the other, the lens and speculum, the top of the latter being much smaller than the lens. It seemed to me that it would be an advantage to use a speculum in which a lens was fixed. I failed to learn that such a speculum is now made, although I think that there is nothing new in the idea. The accompanying figure represents a section of one that has been

made by Hawksley, 357, Oxford-street, London, W., and answers well. The lens has a focal length of three inches and is maintained in an oblique position by the edge of a ring of metal within the straight part of the speculum tube. The ring can be easily taken out and then the lens can be detached, and it or the speculum can be cleaned. Many members of the profession had reason to feel regard for Mr. Thomas Hawksley. I think the first of these specula was the last instrument that engaged his attention before his fatal illness. They can be obtained from the present firm.

Queen Anne-street, W. WILLIAM R. GOWERS.

HOSPITAL CONCERTS.—At a recent meeting of the infirmary committee of the Salford guardians a report was presented by Dr. E. T. Milner, the visiting surgeon, and Dr. J. D. Buchanan, the resident medical officer, condemning the holding of the hospital concerts. There was a good deal of hostile criticism from members of the committee, one saying that it had taken Dr. Milner "a long time to find it out." One of the lady guardians, who must have rather light ideas as to the sense of honour and responsibility obtaining in the medical profession, is reported to have said that "medical men could interpret anything to suit themselves." Another gentleman said that what he called the "excuses" of the doctors, "to his mind, had no weight whatever." Some lively passages took place between the guardians and the chair which ended, however, in the report of the medical officers being approved. The chief points in the indictment against the concerts were that the air of the room became foul; that the patients were injured by being kept out of bed till 9.30 when the rule was for all lights to be put out at 8 P.M.; that the concerts disturbed many of the patients who were unable to attend; that children caught chills on their way back to the pavilions; and that extra work was thrown on an already hard-worked staff.

# THE LANCET.

*LONDON: SATURDAY, FEBRUARY 20, 1909.*


## The Royal Commission on the Poor-Laws and the Relief of Distress.

THERE has just been published one of the most important documents dealing with the social life of this country that we have ever read. These are large words but we wish to say them again deliberately. The Reports, both the Majority and Minority Reports, of the Commissioners appointed to inquire into the working of our Poor-laws and into the methods of relieving the distress among the destitute make up one of the most valuable pronouncements on public health in its largest sense that has yet appeared in our language. The various recommendations touch upon sanitary administration at all points; they deal with some of the most urgent of the social questions which are now exercising the intelligence of thoughtful persons; and in many directions the Commissioners have recognised that preventive medicine is the crucial consideration in all measures for the relief of poverty. This liberal recognition of the claims of preventive medicine leads us to hope that the legislation which will follow upon the recommendations must be similarly inspired. An enormous work lies before our law-givers if they attempt to remove in any systematic and comprehensive way the widespread evils revealed to them by the Commissioners, but grave conditions require drastic remedies and the public will see the need for far-reaching measures. We trust that the outcome will be legislation on large lines, but this does not necessarily mean a rapid destruction of all that now helps us to support the burden of our poor. What is good must be preserved, and we must not allow ourselves, by too close a contemplation of sinister details, to lose sight of general benefits which we now enjoy. Lord GEORGE HAMILTON (Chairman), the Roman Catholic Bishop of Ross (Rt. Rev. DENIS KELLY), Sir HENRY A. ROBINSON, Sir SAMUEL PROVIS, Mr. F. H. BENTHAM, Dr. A. DOWNES, Rev. T. GAGE GARDINER, Mr. C. S. LOCH, Mr. J. PATTEN MACDOUGALL, Mr. T. HANCOCK NUNN, Rev. L. R. PHELPS, Professor WILLIAM SMART, Mrs. BERNARD BOSANQUET, and Miss OCTAVIA HILL are the signatories of the Majority Report, the Minority Report being signed by the Rev. RUSSELL WAKEFIELD, Mr. F. CHANDLER, Mr. GEORGE LANSBURY, and Mrs. SIDNEY WEBB. We do not propose to attempt at this moment to compare the two Reports, because we consider that before assisting our readers to decide by which set of conclusions they ought to be guided we must place before them some of the reasons given for arriving at those conclusions, and some criticism of those reasons. We propose, therefore, to analyse the two Reports in a short series of articles setting out the points in common in the documents, such as the abolition of boards of guardians, of general workhouses, and of the term Poor-law, and dealing at the parting of the ways with the alternative policies, and where possible suggesting the places at which a thoroughly comprehensive plan would be most appreciated by the medical profession.

We find in the Minority Report the distinct recommendation that the property, liabilities, and duties of all the destitution authorities erected by the Poor-law Amendment Act of 1834 for England and Wales, and by the various Acts of corresponding legislative meaning for Scotland and Ireland, should be abolished. This is, of course, a very drastic proposal, and although the natural sequel to it, foreshadowed in both Reports—viz., the amalgamation of the Poor-law service with the sanitary service—has great claims upon respectful attention and is the ideal of many sanitarians, we must not be carried away by the suggestion. Even when we get so far as to say that there should be one authority only, we need not say that that authority is to be municipal. To THE LANCET personally the recommendation has attractions. We find that things written in our columns 75 years ago by THOMAS WAKLEY, the Founder of THE LANCET, and repeated in our columns 45 years ago as a result of investigations into the treatment of the sick poor in workhouses under Poor-law guardians, are now substantiated in certain particulars by the recent Commission. They were disputed only in a half-hearted manner at the time they were written. But any small gratification arising out of the chance of being able to say "We told you so" is cancelled by the depressing effect of realising how permanent are the powers of evil, even when strenuous resistance may have been offered to them. In January, 1835, THOMAS WAKLEY was elected Member of Parliament for Finsbury and almost immediately turned his attention to the working of the Poor-law Amendment Act placed upon the statute book a few months previously. The Act was framed with absolutely philanthropic intent, and this point should be remembered, for many people speak as if the measure was a deliberately malignant move by legislators who foresaw all the misery that might follow in its train, and, rightly or wrongly, be attributed to its proceedings. As was natural, in 1834 the measure was too much directed towards relieving the owners of land and houses of the burden of their responsibility to be fair or satisfactory to the community, but very many of the failings of the Act could not have been foreseen at its passing. Previously to this Act the management of the pauper was vested entirely in the hands of the local vestry, each parish looking after the poor in its own district. The result of this arrangement was that in-door relief was hopelessly mismanaged, scattered rural districts being unable to support the poor in an adequate workhouse. Outdoor relief, on the other hand, was more spontaneous and better directed, the recipients of assistance being personally known to the distributor of the charity, very generally the squire or the rector. But it was to be urged against this that able-bodied men out of work got relief without doing anything in return for it, while loafers multiplied in many districts, and rural immorality became a serious national trouble. To systematise indoor relief and to make outdoor relief a form of better distributed charity were the excellent

proposals of the Act. But from the first they would not work properly. Before the Act of 1834 it was possible for a pauper to become entitled to relief simply by being hired or employed in a parish, or by renting a tenement therein, or by apprenticeship, as well as by birth. The amended law laid down that birth should be the *only* means of obtaining settlement for purposes of relief, unless other means were agreed to by the guardians under the Act in any particular case. This rule bore exceedingly hardly upon the labouring classes, especially in districts where the landlords were selfishly inclined to take any steps, even the destruction of cottages, so that the locality might become exempt from the maintenance of paupers. Much of the land under tillage was, moreover, so valuable that owners could afford to allow large tracts to go out of cultivation, and they preferred to do this rather than to make themselves responsible for the relief of the peasants who should have been resident on the soil and employed in its cultivation. WAKLEY poured a heap of scorn upon these grounds on the Act in his public speeches made both in Parliament and to his constituents without the walls of the House, and in his political addresses he stigmatised the whole spirit of the proposals as a deliberate persecution of the poor by the well-to-do.

Much of this loose abuse was the outcome of a passionate sympathy with the rural poor in touch with whom WAKLEY had been brought up as a boy, and some, it must be admitted, was inspired by incorrect information; but when he began to specialise in his criticism of the Act and to consider its working from the point of view of the medical profession, he was able to take up a far stronger position. He had an unrivalled knowledge of the details of medical practice, and he said at once that there was no proper provision made in the Act for the medical attendance that was so freely promised. He found the Act to be so largely one of economy designed to make the able-bodied work and the well paid of the family help the ill paid, that the more merciful and more enlightened intention to assist the sick, which had certainly been part of the original scheme of those who appointed the Commission, had been lost sight of. The aim was to thrust the care of the sick poor upon the community at the lowest possible rate of expense, and one of the most obvious savings might be in the salary of the Poor-law medical officers. He prophesied that trouble would follow upon the general disregard of medical views, and for the next 20 years he spared no pains to make it public that what he had expected had happened. As coroner as well as editor of this paper he was in an exceptional position to know all that was passing, and it soon became apparent that scandals were attending the working of the Act. In front of all his interest in Poor-law matters he placed the urgent necessity that existed for improving the accommodation of the sick in workhouses. He asserted and reasserted that the mortality statistics in the poor-houses made the impressing into them of unwilling fellow-creatures almost a crime, and promised to unfold a tale that would rouse all the country to what was taking place. With this intention before him he died, but when almost immediately afterwards—that is, in December, 1864, and at the beginning of 1865—two tragedies occurring in workhouses called the attention of the public to the subject in a heartrending manner, Dr. JAMES WAKLEY, who had succeeded his father as editor of THE LANCET, instituted an inquiry into the medical treatment of paupers in workhouses. He appointed as Commissioners of THE LANCET the late Dr. FRANCIS EDMUND ANSTIE, the late Dr. KERR of Greenwich, and the late Mr. ERNEST HART (afterwards and for so long editor of the *British Medical Journal*), and the grave results of their investigations appeared in our columns. The elder WAKLEY had prepared the medical profession for the sinister story which followed. He had promised that THE LANCET should make these revelations, and when they were made it is not too much to say that the heart of England was roused. Many reforms followed. Although the system of the Poor-law did not permit these to be either universal or wide in their scope, they were none the less real and in places effective, while future developments under the Poor-law became instinct with a wiser and more humanitarian spirit. Mr. HART returned to the agitation and in a series of articles in 1895 in the *British Medical Journal* on the nursing and administration of provincial workhouses and infirmaries showed that in many directions the position was unaltered. And now in 1909 the latest Royal Commission shows that the working of the Poor-law, though its exertions have been of a valuable and salutary nature as can be proved by the mass of statistics relating to our national poverty, has been attended in its medical aspects with many sad features.

We trust that the egotism of much that has just been written will be pardoned by our readers; it was not possible to tell the story of the long agitation against certain aspects of the Poor-law without the personal references. To those who would point out that old abuses have a tenacity almost defying loosening we would suggest that though the position of our Poor-law administration may be in certain ways the same now in its crudities and ineffectiveness as it has been throughout the last 75 years, this does not mean either that no progress has been made. or that no reforms have been successfully introduced, or that nothing but callous supineness has reigned, or that continued agitation has served no purpose. We have in London only to look at the work of the Metropolitan Asylums Board, a legitimate offspring of the Poor-law, to recall its vigorous action, its present career of financial success, and the vast tragedies which have been averted by its administration to know that wholesale abuse of the Poor-law as penurious and slothful is simply unjust. The situation is capable of a fairer and more flattering interpretation. The world has moved with great swiftness since the Poor-law Amendment Act of 1834, and in no direction has this swiftness been more marked than towards comprehension of the principles of sanitation and preventive medicine. Consequently inelastic regulations have been dragged, resisting and protesting, hither and thither in vain attempts to make them meet situations undreamt of by those who designed them. Alongside of the Poor-law there has grown up a complete sanitary service the activities of which form a contrast to the working of the Poor-law, where an enormous amount of devoted energy

has been expended merely to prevent things falling from bad to worse. It is not so much that nothing has been done, as that earnest work has been spent in bailing out a boat, leaving less energy over wherewith to steer a course. This position is recognised in both Reports, and there is no doubt that legislation will follow upon them in due course. We hope that it may be of a large sort and that the abolition of the general workhouse will be one of the earliest reforms. The general workhouse, the existence of which was not designed by the original Commissioners in 1834, has been condemned throughout its whole existence as an institution that from its very nature must be a breeding place of social evils. An assembly of miserable persons, having nothing but poverty in common, consisting of young and old, strong and weak, healthy and unhealthy, vicious and respectable, are all jammed into one building, which may be of any character from the unnecessarily palatial to the positively stinking. Here they can exchange ideas and germs; here they can receive little or no help which will be of any permanent good to them; here they can get an immense variety of evil impressions, both physical and moral, which they can stamp upon the public during their periods of freedom. We know that there exist model workhouses and admirable infirmaries with a vastly increased nursing staff and excellent medical service, but they form no apology for the existence of institutions of the other sort. To reform the general workhouse means, first, a classification of the inmates and then a reasonable scheme for sorting them up. The way in which this should be done we shall have to consider as one of the principal points of interest in this valuable document.

## Feeding of Children in Relation to Palatal Deformities: The Effects of Adenoids.

IN a paper published in the current issue of the Proceedings of the Royal Society of Medicine Mr. J. F. COLYER gives the result of an examination of the palatal conformation of over 300 patients in whom he had obtained a full account of the methods of feeding. The object of the investigation was to ascertain in what way, if any, the palate and dental arches differed in hand- and breast-fed children and in those who had suffered from adenoids. The measurements upon which the deductions were based were two; the first was taken between the first permanent molars, the point chosen for measurement being the gum margin immediately in line with the fissure on the palatine aspect of the tooth; the other measurement was taken between the first deciduous molars or first premolars, the point chosen being the gum margin corresponding to the centre of the palatine aspect. Throughout the paper a distinction was drawn between the patients seen in private practice and those seen in hospital practice in order to see if differences existed between individuals which could be connected with social grades. Mr. COLYER finds in cases of breast-fed children in private practice who are free from adenoids that the average width between the molars is 34·85 millimetres and between the premolars 26·31 millimetres. These figures he takes throughout as representing the normal. He finds that in private practice the arch in hand-fed children who are free from adenoids is not quite so well developed as in those who are breast-fed, but the difference in breadth is only slight, being less than a millimetre in both directions. Amongst the patients drawn from hospital practice the difference between breast- and hand-fed children is more marked. He attributes the variation in the arch of the breast-fed and the hand-fed in both classes to the different action of the teat and the nipple on the palate. His figures seem to show that a genuine deformity may arise from the use of the old tube feeding bottle, and in 41 patients examined he finds a marked decrease in width in the molar and premolar regions, the decrease being in the former as 100 : 92·2 and in the latter as 100 : 87·6. The shapes of the palates were also investigated by means of plaster casts and he finds here that the relative breadth to height in the breast-fed is slightly greater than in the hand-fed.

In examining the palates with regard to the effect of adenoids investigations were only carried on in those cases showing simple crowding of the dental arches. Mr. COLYER finds, of course, that children who have been affected with adenoids have narrower palates than those not affected, the principal difference being in the premolar region, and he considers that the effect of adenoids is more marked in breast-fed than in hand-fed children. The figures which he obtained suggest the following ideas: 1. That as far as breast-fed children are concerned the effect of adenoids is more marked in hospital than in private patients, due, no doubt, to the fact that adenoids go longer untreated in hospital than in private patients. 2. The change is more marked in the front than the back part of the mouth, suggesting that the weight of the tissues of the cheeks exerts an inward pressure on the dental arch. This pressure would naturally be felt more in front than at the back of the arch. 3. The effect of adenoids in narrowing the arch is less felt in hand- than in breast-fed children. This point is of interest and certainly requires further investigation. Sections through plaster casts of the palate seem to suggest that the arch of the palate is more irregular and that the rise of the palate from the incisor teeth is more abrupt in children who have had adenoids than is the case in normal children, the general idea given being that there has been some degree of lateral pressure brought to bear on the sides of the arch, forcing it up. With regard to the general effect of adenoids upon the dental arch he states: "If a series of models of children be examined in which adenoids were present in early years the constant presence of more or less crowding of the incisors will be apparent. This crowding may involve all four incisors or only the lateral incisors, expressing itself as a slight tilt of these teeth. On examining such teeth more critically it will be noticed that the general trend of the roots is towards the median line. The apices are squeezed, as it were, together. This crowding must be attributed to want of growth of the premaxillæ owing principally to lack of function of the anterior nares." Mr. COLYER thinks that the view held by some that the growth ceases between the premaxillæ and maxillæ at birth is open to question, for an examination of skulls suggests that growth continues to a much later date than is usually stated, and that the spacing of the incisors

just previously to the eruption of the permanent teeth is in a certain measure connected with this growth, and is thus more rationally accounted for than by assuming a forward translation of the teeth by the tongue. Again, the crowding seen in adenoid cases can be explained on the lines of want of growth, a point of great importance with regard to the question of treatment.

A further effect of adenoids on the arch is to be seen in the region of the molars. The first molar when erupted will often fail to assume a vertical position and lies with a general slope backwards. The growth of the maxilla and eruption of the molar teeth have been shown by KEITH to be largely dependent on the expansion of the antrum. If, then, the function of the antrum is interfered with as in nasal obstruction a lack of growth of the maxilla is to be expected, with the result that there will be crowding in the region of the molars. Examples illustrating this point are by no means uncommon. With the loss of the second deciduous molar the permanent molar swings forward, and so an abnormal occlusion results with an encroachment on the space required for the premolars. In some cases the want of growth in the molar regions is so marked that the first molar erupts in such a way as to lead to absorption of the posterior roots of the second deciduous molar. Under such conditions it is quite clear that abnormal occlusion must result and the space for the premolars be considerably curtailed. A study, then, of the palates and arches of children with adenoids, in comparison with those of normal development, would seem to suggest firstly, that there is a definite lack of growth of the bone, especially in the incisor and molar regions; and secondly, that the pressure or weight of the cheeks narrows the arch, the effect being more felt from this cause in the anterior than the posterior part. In relation to the deformity known as "superior protrusion" Mr. COLYER finds that this is accompanied by a marked narrowing, especially in the premolar region, and in many cases by a considerable displacement of the occlusion of the teeth, and he is of the opinion that the deformity causing protrusion of the teeth is due in nearly all cases to an interference with the growth of the maxilla rather than the mandible, and he more or less confirms the popular belief that the actual protrusion is the direct result of the prolonged use of the comforter or thumb-sucking during early years.

## Charles Darwin.

ON Feb. 12th, 1809, was born CHARLES ROBERT DARWIN, and in this month we celebrate the centenary of his birth. DARWIN was without doubt the most striking figure in the realm of science during the nineteenth century, and this he was not only in the eyes of scientific men but also in the eyes of those who knew no science. When his views on evolution were put forth in 1858 they were received by some as the revelation of eternal truths, but by others as the baseless vapourings of scientific credulity. Even those who accepted his teachings formed but a part of the scientific world and the time of storm and stress raised by his writings lasted many years, yet now it may be said that everywhere throughout the world the theories put forth by DARWIN have been accepted by scientific men and by the majority of the educated who have not studied science. Here and there Darwinism is still spoken of as an irreligious imagining but nowhere now is it laughed at as an amusing folly.

Much misconception, however, exists as to the exact teaching of DARWIN. The immutability of species was once generally received and any doubt on this point was looked upon as scientific heresy, yet long before DARWIN'S day the idea had arisen in many minds that all living beings were somehow related, that there had been a progressive change going on throughout nature by which higher and higher forms of animals had proceeded from the lower, and two of the better known exponents of this idea were ERASMUS DARWIN, the grandfather of CHARLES, and LAMARCK; but these and the other exponents of evolution had failed to suggest any reasonable explanation of the reason for evolution. By some it was suggested that in living matter there was an innate tendency to proceed to higher and higher beings; but CHARLES DARWIN was the first, in conjunction with RUSSEL WALLACE, to suggest that the environment of each living being, the conditions under which each plant or animal lived, were daily and hourly testing its fitness to survive, so that any variation favoured the survival or the death of the individual possessing it. This theory of natural selection is the essential part of DARWIN'S teaching, and it became popularised under the name, suggested by HERBERT SPENCER, of "survival of the fittest." It was much misunderstood at the time and it has been much misunderstood since, but it has prevailed hitherto against all the assaults made upon it. The struggle for existence, which is widespread, and the fact that offspring differ from their parents and amongst themselves, are postulates which nearly all will readily concede, and on these foundations DARWIN erected his theory. Since the publication of "The Origin of Species" attacks have been made from time to time on several of the outlying portions of his position but nothing has been published which has really militated successfully against the main thesis. DARWIN assumed that acquired characters were transmissible; nowhere does he attempt to prove it. WEISMANN and others have shown that there is an utter lack of evidence that an acquired character can be transmitted, and until this evidence is found we are not justified in assuming that a character which is acquired can be transmitted to descendants. The idea may be relinquished without the slightest impairment of the true Darwinian theory and it is probable that DARWIN had never really considered the question. The mode of origin of new organs is also no necessary part of DARWIN'S main theory, though he maintained that the summation of minute variations would result at last in the production of new organs. There has gradually accumulated a mass of evidence that the genesis of new organs may sometimes at least be more rapid, but so far as the theory of natural selection is concerned the matter is of little moment.

Whatever vicissitudes Darwinism may undergo in the future this fundamental portion of it will at least stand firm, that nature tests the utility of all variations and removes the harmful. It must not be forgotten that the theory of

evolution put forward by DARWIN was only a portion of his enormous output. A tireless worker, possessed of an indomitable spirit, he succeeded in carrying out lengthy researches and investigations while he was suffering from long-lasting ill-health. We cannot fail to admire the zeal and energy which he evinced in the amount and the quality of the work which he accomplished in circumstances which would have prevented many from working at all. It has often been said that the concentration of his mind on one field of study led to the atrophy of the artistic side of DARWIN'S mind, but it must be remembered that he possessed to the full the quality of scientific imagination, which in itself is closely allied to the imagination of art, and this power of arranging and rearranging ideas, of creating theories to explain the known facts, is the essential element in the advance of science. DARWIN refused to hold to a theory as soon as it proved incapable of accomplishing what it was made for. A theory that fails to explain what is known is worse than useless; it bars the way to the formation of a new theory, more likely to be true because it affords an explanation of more facts. In his love of truth and his tireless striving to enlarge the bounds of knowledge we have in CHARLES DARWIN an example of the highest type of the worker in science, and his life will ever be a potent stimulus to the study and the investigation of nature.

# Annotations.

"Ne quid nimis."

## THE OPENING OF THE PARLIAMENTARY SESSION.

PARLIAMENT was opened by His Majesty in person on Tuesday and in the speech from the Throne were enumerated several measures which it is the intention of the Government to submit during the session. Several of these Bills will have an interest for the medical profession. The Housing and Town Planning Bill, which contains a section relating to medical officers of health, is the same measure as passed through a Standing Committee of the House of Commons last session but was dropped owing to the lack of time for its subsequent stages. It was mentioned in the King's Speech, and Mr. Burns, the President of the Local Government Board, reintroduced the Bill on Wednesday, when it was read for the first time. Another subject of legislation mentioned in the King's Speech is milk-supply. A measure on this matter was anticipated last year but Mr. Burns deferred its introduction until this year. Another Bill will have regard to the law relating to inebriates. Several medical questions are ripe for legislation. For example, there is the proposed General Anæsthetics Bill which has received the consideration of the General Medical Council. A Bill to prohibit medical practice by joint stock companies has also been before Parliament in recent sessions. Such matters are ready for the consideration of the legislature, but at this period of the session it is premature to discuss their Parliamentary prospects.

## THE LOW DEATH-RATE IN LONDON IN 1908.

DURING the 40 years 1861–1900 the annual death-rate per 1000 of the population of London declined steadily from 24·4 in the ten years 1861–70 to 19·6 in 1891–1900. Since 1900, moreover, the death-rate in London has further declined at an increasing rate, and the mean annual rate in the seven years 1901–07 did not exceed 16·3 per 1000, the lowest rate in those seven years being 14·6 in 1907. A further remarkable decline in the death-rate occurred last year, during the 53 weeks of which the 68,193 recorded deaths were equal to the unprecedentedly low rate of 14·0 per 1000. Infantile mortality during last year was also unprecedentedly low; the deaths of infants under one year of age did not exceed 113 per 1000 registered births, against 131, 133, and 118 in the three preceding years. During the ten years 1891–1900 the deaths of infants were equal to 160 per 1000 births, whereas in the eight years 1901–08 this proportion of infantile mortality declined to 133 per 1000, the highest rate in the eight years being 149 in 1901. During the 53 weeks of last year the deaths referred in London to the principal epidemic diseases were fewer by 320 than those recorded in 1907, the fatal cases of measles and of whooping-cough showing a marked decrease, and those of scarlet fever and of diphtheria being also somewhat less numerous. The 2589 deaths attributed to diarrhœa, mainly infantile, exceeded the exceptionally low number in 1907 by 1046, but were 853 below the average annual number in the ten years 1891–1900. The 231 deaths referred to "fever" (almost exclusively enteric) slightly exceeded the number in 1907, which was by far the lowest on record; the annual rate of mortality from this disease in London, which averaged 143 per 1,000,000 persons living during the years 1891–1900, did not exceed 74 in the eight years 1901–07, showing a decline of almost 50 per cent. It is satisfactory to note that of the 68,193 deaths registered in London during the 53 weeks of last year the causes of all but 65 were duly certified by a registered medical practitioner or by a coroner; this result may be mainly attributed to the high proportion of inquests held within the county, which slightly exceeded 10 per cent. of the total deaths. For further details of the London mortality in 1908 we shall await with interest the publication of the Registrar-General's annual summary for last year, but in the meantime we may congratulate the London County Council and its medical officer of health on the unprecedentedly favourable results of its sanitary administration of the metropolis. The recorded death-rate of 14·0 per 1000 of the huge population within the County of London, including, as do all capital cities, an exceptionally large proportion of the poorest of the working classes, is indeed a triumph of sanitary and Poor-law administration, more especially as the mean death-rate last year in the 75 large provincial towns, with populations ranging down to 50,000, was equal to 15·5 per 1000, thus exceeding the London rate by more than 10 per cent.

## UNWHOLESOME MILK.

IN our issue of Nov. 28th, 1908 (p. 1616), we commented upon the result of the first quarter's working of Part IV. of the London County Council (General Powers) Act, 1907, dealing with the question of milk-supply in relation to tuberculosis. It was found that 23·9 per cent. of the completed examinations gave a positive result. The second quarterly report which appeared this week showed a lower percentage, as of 285 completed examinations only 22 (or 7·7 per cent.) gave a positive result. The outcome of inspection at farms was that 74 cows (or 3·6 per cent. of the animals) proved to be suffering from tuberculosis of the udder, and in the case of a particular supply, derived from 19 farms, inspection of all the cows (254) at these farms showed that 11 cows, or 4·3 per cent. of the animals, were thus affected. The Third Interim Report of the Royal Commission on Tuberculosis, which we published in our last issue, clearly shows that risk is by no means limited to use of milk from cows with tuberculous udders. Milk contaminated with

fæcal matter derived from tuberculous cows has been demonstrated to possess infective properties. The Commissioners say: "The experiments which we have carried out with regard to the infectivity of the fæces of tuberculous cows were dictated by knowledge of the fact that dirt of various kinds from cows and the cowshed is almost constantly present in milk as it reaches the consumer." There have not been wanting apologists who have declared that such contamination is unavoidable. The anatomy and habits of the cow have been referred to in this connexion, and it has been pleaded in evidence in a London police court, as an excuse for the fact that a cow's flanks were found to be coated with cow-dung, that to have washed them would have exposed the cow to risk of contracting rheumatism. Furthermore, cleanliness involves expenditure and the purveyor of dirty milk says he must live. London seems, however, to have at length reached the point of exclaiming, *Je ne vois pas la nécessité*. Dr. A. C. Houston incidentally noted, in a report on the bacteriological examination of milk presented by Sir Shirley F. Murphy to the public health committee of the Council in 1905, the curious fact that drinking waters were objected to when they contained bacillus coli in 1 cubic centimetre, and milks only when bacillus coli was present in $\frac{1}{100}$ cubic centimetre. We are a thousand times more tolerant of pollution in milk than we are in water. Dr. Houston suggested among other reasons for this the fact "that a smaller proportion of the bacillus coli in milk, as compared with the bacillus coli in water, are likely to be of *human* fæcal origin." This is all very well, but the question is undoubtedly now going to be asked, Why are we content to maintain so complacent an attitude with regard to cow-dung? This at any rate is the view taken by the London County Council, which is proposing in its General Powers Bill of this year to deal with "unwholesome milk"—i.e., "milk found to contain any matter rendering it unwholesome or unfit for the food of man." The Council's existing machinery for dealing with tuberculous milk could doubtless be applied at very small additional cost to unwholesome milk also. The quarterly reports already referred to show that the total expense incurred in connexion with the existing administration has been from £100 to £150 a quarter. But then there is the veterinary inspection at the farms, and here the Council is compelled to seek the coöperation of the local authorities "in whose districts are situated the farms in which affected cows were found with a view to preventing the supply of tuberculous milk from these animals," and (the report we are quoting from continues) "we are informed that two of these authorities have recently appointed veterinary inspectors to deal with this work." Mr. Burns's Milk Bill is indeed urgently needed to make it obligatory upon authorities which have not yet appointed veterinary inspectors to provide a sufficient staff for the frequent and systematic inspection of cows in dairy farms.

## CATLIN ON THE TEETH OF RED INDIANS.

ALTHOUGH the discussion on the causes of dental caries has been closed in the columns of THE LANCET it may not be amiss to put on record the views of a pioneer in anthropology who studied the hygienic conditions of primitive savages at a time when civilisation had not as yet killed them off to an appreciable extent. George Catlin travelled among the North and South American Indians during the first half of the nineteenth century, and wrote valuable works, full of data, upon these then little known tribes. In his rare and curious "Manugraph" (a stereotyped copy of a manuscript and sketches) entitled "The Breath of Life," published in 1862, he writes as follows: "The contrast between the two societies, of savage and of civil, as regards the perfection and duration of their teeth is quite equal to that of their bills of mortality; and I contend that in both cases the principal cause of the difference is exactly the same, that of respiration through the mouth during the hours of sleep. An Indian warrior sleeps, and hunts, and smiles with his mouth shut; and with seeming reluctance, opens it even to eat or to speak. An Indian child is not allowed to sleep with its mouth open." Catlin had often seen Red Indian mothers pressing their infants' lips together, sometimes very roughly. The consequence is, "while the teeth are forming and making their first appearance, they *meet* (and constantly *feel*) each other; and taking their relative, natural positions, form that healthful and pleasing regularity which has secured to the American Indians, as a race, perhaps the most manly and beautiful mouths in the world." Catlin visited from first to last some two million Indians, and from his own observation, and after constant inquiry from chiefs and medicine men (whom he calls "medical men"), found them almost entirely free from dental caries, rickets, and all other deformities. He examined several hundred skulls in the burial grounds of the Mandans, in his day a tribe of some 2000 individuals on the Upper Missouri, and found them to be adorned with extraordinarily sound white teeth. "I was forcibly struck," he says, "with the almost unexceptional completeness and soundness (and total absence of malformation) of their beautiful sets of teeth, of all ages." The Mandans he takes to be typical of most other Red Indian tribes in the matter of teeth. Like the other Indians, they were great consumers of meat and Indian corn. The American dentists were early attracted to the Mandan burial grounds, so that, says Catlin in 1862, the most beautiful of those teeth "which had chewed buffalo meat for 25 years or even a half century, are now chewing bread and butter in various parts of the world."

## DEATH CERTIFICATION AND CORONERS' INQUESTS.

WE have before us an article contributed under the above title by Mr. F. W. Lowndes to the *Liverpool Medico-Chirurgical Journal* in which the writer, whose long experience lends weight to his opinions, dwells upon several points of importance in connexion with the system under which the cause of death is established and recorded. The possible reforms to which he refers are not mooted for the first time but are such that constant insistence upon them is by no means undesirable, for, as Mr. Lowndes reminds us, the thankless and unpaid duty of death certification was imposed upon the medical profession in 1874 and still earns neither gratitude nor remuneration from the public which it is intended to protect; and the Coroners Act passed in 1887 has not prevented the burial without inquiry of murdered persons or friction between coroners and those medical men who quite rightly assist the former in the carrying out of their important functions, but who equally justly claim some pecuniary compensation in certain instances where none is provided for them. We are also reminded by the writer of the important evidence given before the select committee appointed in 1893 to consider the whole question of ascertaining and recording the cause of death and of the report which was based upon it. During the long interval which has elapsed since the committee sat no legislative result has followed. Presumably in such circumstances a fresh inquiry will be deemed necessary before any amendment of the law is attempted, and for other reasons there seems little reason to hope for the attention of the Government being directed to the subject at the present moment. A possible change of importance which Mr.

Lowndes regards with some favour is the abolition of the coroner's jury and an approach to the system under which the procurator-fiscal holds his inquiry in Scotland. There is much to be said on behalf of such an innovation and that not with regard to those juries only over which the coroner presides. Among the reasons, however, which are likely to be put forward against it is one which coroners and others holding judicial offices would as a rule acknowledge to be of weight. Whatever degree of intelligence or want of intelligence may distinguish a common or petty jury, it consists of a body of men whose decision, whether right or wrong, relieves an individual of responsibility which in some instances would rest heavily upon him and shelters him from censure for those mistakes which he might make or might be thought to make if he had to decide single-handed, and for which he would be blamed in a manner in which a jury is not. Whether it be deserved or not the public confidence in the jury system is considerable.

## MOULDS IN FOODS: ARE THEY WHOLESOME?

IT is a little difficult to understand in what way the human instinct is guided in regard to deciding when moulds on foods are objectionable and when they are acceptable. It is certain at any rate that the same mould is both relished and objected to according to the particular food on which it flourishes. No one eats for choice mouldy jam or a mouldy strawberry or biscuit, and yet the same mould growing on a cheese or a ham may be appreciated. If, again, the same mould were found on beef or mutton the meat would probably be regarded as unfit for food. In some instances, notably certain hams and cheeses, the mould is cultivated to give these respective articles of food a ripe appearance and flavour, and when they attain this condition they as a rule increase in value. So far there has not been much evidence to show that the ordinary moulds which find a favourable place for development in foods are *per se* injurious to health, but the subject is worthy of deeper investigation than it has hitherto received. The presence of mould implies staleness or age. It is well known, however, that the digestibility and palatability of not a few foods increase as they "ripen." We have already mentioned the instances of cheese and ham, and there are the further instances of "hung" mutton and venison and game. By ripening we do not mean a state bordering on actual putrefaction when such foods are described as "high," but a seasoned condition when the food becomes more tender, digestible, and appetising. At this period mould may be found, especially if the seasoning process has been allowed to develop in a damp place. It seems as though foods which are palatable only if eaten comparatively fresh may act poisonously on the system when mouldy, and conversely it would appear that those foods which are eaten dried or cured or which can be kept in a more or less dried state are undamaged by mould. Cheese, after all, is more or less the dried nitrogenous portion of milk; "hung" mutton is mutton that is exposed for some time to a current of air so that, at any rate, its surface is dry; of hams the same thing may be said. In the opposite category would be placed the mouldy fruit or jam which are, of course, moist, or the biscuit which has been lying in a moist place, for neither a biscuit nor flour would go mouldy if kept dry. The reason partly why some like mould in Stilton cheese while all resent the same mould in a strawberry depends probably upon this question of moisture. The guiding principle appears to be—as far, at any rate, as the palate goes—that anything which is mouldy must not be wet. This conclusion still leaves open the point as to whether mould occurring on food, whether wet or dry, may not be dangerous, having regard to the relations which have appeared to exist between low organisms and disease. On the whole, there is reason for believing that the health would be better safeguarded if moulds were kept out of the diet.

## ANALYSIS OF 2000 RECENT PRESCRIPTIONS.

IN the *Pharmaceutical Journal* of Jan. 16th Mr. J. W. Walton contributes a statistical analysis of 2000 recent prescriptions which have been dispensed consecutively since October, 1907, in a provincial suburban pharmacy. They were written by 124 different medical men, some coming from various points of the British Isles and from France, Germany, and the United States. The prescriptions called for 2197 different articles containing 6531 separate preparations, galenicals or drugs. 1359 mixtures were ordered, forming about two-thirds of the articles dispensed. Of these 999 contained from one to four ingredients, 223 contained five items, and the remaining 137 contained from six to nine ingredients, water not being counted as an ingredient. In some of the mixtures the complexity was so great that the effects of some of the drugs were counteracted by the presence of other ingredients. The most complex mixture contained no less than 21 ingredients, counting the ingredients of the different galenicals prescribed, and included the salicylate and carbonate of bismuth, opium, nux vomica, cascara, chloroform, belladonna, aloes, myrrh, gentian, and bitter orange peel, the remainder being adjuvants. Turning to other forms of medication, the prescriptions called for 125 powders, 124 ointments, 85 lotions, 63 cachets, 60 compressed tablets, 52 liniments, 42 pills, 42 capsules, 31 solutions, 29 applications, 29 gargles, 22 inhalations, 19 paints, 17 drops, 15 lozenges, and 12 draughts. The list also included effervescent mixtures, blisters and suppositories, six of each; five emulsions; mouth washes and granules, four of each; plasters and jellies, three of each; two hair washes, one confection and one injection. In 153 cases B.P. preparations were specified, and in 73 cases preparations of our 1885 Pharmacopœia. Of proprietary articles British were ordered 179 times; German, 84; American, 41; and French only five times. These statistics are of great interest, forming as they do an index of the present condition of the art of prescribing. It is noteworthy that out of 6531 separate medicinal ingredients so small a proportion of proprietary articles was ordered, indicating that the art of prescribing is very far from being in the moribund condition usually stated.

## SUNSHINE AND RAINFALL DURING 1908.

THE figures in the appended table have all been extracted, with the exception of those at Sandown, from an annual report of the weather published by the authority of the Meteorological Office. It will be seen that except in certain parts of Scotland, the north-east of England, and in Ireland the number of hours of sunshine exceeded the normal, the divergence being most marked at Blackpool, Llandudno, Westminster, Tunbridge Wells, and on the coast of Sussex, while the aggregate rainfall, on the contrary, was below the average at almost all the stations. The rain shortage in the Channel Islands, the south-west of England, and also over a considerable portion of the north-east of England was unusually large and some places in the Midlands were also very dry. As is generally the case, the sunniest regions were the Channels Islands, the Isle of Wight, and the south coast of England, followed closely by the south-west and east coasts. In the London district the sunshine exceeded the average for the sixth or seventh year in succession, and it is rather a surprise to notice that Greenwich, which is not far from the smoky East-End, recorded more than any of the other stations in the metropolitan district, not excepting Kew Observatory. The figure of 1634 hours at Greenwich calls

for special attention, as it is higher than that at Clacton-on-Sea, Margate, and Cromer, as well as at many places on the north-west coast of England, while none of the stations in the Midlands can show such a high record. The driest localities in the actual amount of rainfall were the eastern and south-eastern counties of England, where the number of days with rain was about 100 less than it was on the south-west coast of Ireland, one of the wettest parts of the kingdom.

| | | Sunshine. | | Rainfall. | | |
|---|---|---|---|---|---|---|
| | — | Number of hours. | Difference from average. | Total fall. | Difference from average. | Number of days with rain. |
| | | | | Inches. | Inches. | † |
| East coast. | Scarborough | 1378 | * | 20·2 | − 7·1 | 192 |
| | Whitby | 1413 | * | 19·7 | − 6·0 | 170 |
| | Skegness | 1630 | * | 18·0 | * | 195 |
| | Cromer | 1488 | * | 18·5 | * | 226 |
| | Yarmouth | 1711 | * | 22·5 | − 2·8 | 173 |
| | Lowestoft | 1703 | * | 18·6 | − 5·1 | 153 |
| | Felixstowe | 1751 | * | 18·3 | * | 150 |
| | Clacton | 1526 | * | 25·3 | − 3·2 | 186 |
| | Southend | 1727 | * | 18·6 | − 2·7 | 127 |
| | Margate | 1623 | + 83 | 21·1 | − 2·1 | 164 |
| | Broadstairs | 1784 | * | 23·7 | * | 159 |
| South coast. | Folkestone | 1787 | * | — | — | — |
| | Dover | 1832 | * | 23·0 | * | 163 |
| | Hastings | 1887 | +104 | 22·0 | − 7·1 | 162 |
| | Eastbourne | 1932 | +193 | 25·8 | − 5·1 | 154 |
| | Brighton | 1926 | +194 | 21·5 | − 6·1 | 137 |
| | Worthing | 1992 | — | 22·2 | − 4·8 | 146 |
| | Totland Bay | 1994 | * | 21·7 | − 6·4 | 160 |
| | Sandown | 2079 | — | 23·8 | — | 161 |
| | Ventnor | 1933 | +210 | 21·4 | − 8·2 | 161 |
| | Southampton | 1787 | +122 | 27·8 | − 3·1 | 176 |
| | Bournemouth | 1933 | * | 24·1 | * | 163 |
| | Guernsey | 1933 | + 27 | 26·2 | −11·4 | 181 |
| | Jersey | 2001 | + 74 | 25·2 | − 9·0 | 198 |
| South-west coast. | Weymouth | 1857 | * | 24·6 | * | 156 |
| | Torquay | 1797 | + 66 | 25·0 | − 9·3 | 160 |
| | Plymouth | 1813 | +163 | 31·0 | − 4·9 | 189 |
| | Falmouth | 1743 | − 23 | 37·6 | − 7·8 | 206 |
| | Penzance | 1815 | * | 37·9 | * | 207 |
| | Scilly | 1745 | − 66 | 24·7 | − 8·9 | 201 |
| | Newquay | 1832 | +145 | 24·5 | −10·5 | 176 |
| West coast. | Cardiff | 1699 | * | 34·5 | − 8·2 | 213 |
| | Pembroke | 1626 | − 16 | 38·5 | + 3·4 | 206 |
| | Aberdovey | 1578 | * | 40·4 | * | 217 |
| | Llandudno | 1691 | +235 | 30·8 | 0·0 | 208 |
| | Rhyl | 1698 | * | 28·5 | + 0·5 | 192 |
| | Southport | 1549 | + 83 | 32·5 | − 0·4 | 198 |
| | Blackpool | 1615 | +206 | 34·5 | + 0·7 | 194 |
| | Carnforth | 1372 | * | 39·4 | * | 206 |
| Inland. | Harrogate | 1353 | * | 26·0 | − 3·5 | 202 |
| | Buxton | 1298 | * | 42·0 | − 8·6 | 218 |
| | Bettws-y-Coed | 1348 | * | 47·4 | * | 219 |
| | Llangammarch Wells | 1336 | * | 44·4 | * | 218 |
| | Bath | 1741 | * | 23·3 | − 7·2 | 158 |
| | Cheltenham | 1591 | * | 20·2 | − 7·4 | 158 |
| | Tunbridge Wells | 1797 | +209 | 29·5 | − 0·1 | 174 |
| | Newcastle-on-Tyne | 927 | −139 | 20·0 | − 7·4 | 196 |
| | York | 1259 | − 17 | 21·8 | − 3·5 | 200 |
| | Hull | 895 | * | 20·2 | − 5·6 | 188 |
| | Sheffield | 1261 | * | 25·4 | − 7·2 | 179 |
| | Manchester (City) | 921 | * | 32·5 | − 2·7 | 196 |
| | Prestwich | 1224 | + 90 | 37·7 | + 0·7 | 214 |
| | Liverpool (Bidston) | 1481 | * | 28·9 | − 0·1 | 190 |
| | Nottingham | 1295 | * | 21·3 | − 3·5 | 196 |
| | Birmingham | 1140 | * | 26·5 | − 0·9 | 168 |
| | Oxford | 1530 | + 32 | 23·9 | − 1·1 | 179 |
| | Cambridge | 1578 | + 18 | 17·6 | − 5·1 | 165 |
| London district. | Tottenham | 1576 | * | 22·0 | * | 133 |
| | Camden Town | 1357 | * | 23·7 | − 1·5 | 160 |
| | Westminster | 1364 | +220 | 21·3 | − 3·1 | 165 |
| | Greenwich | 1634 | +132 | 23·8 | − 0·3 | 150 |
| | Norwood | — | — | 25·9 | + 1·0 | 171 |
| | Bunhill-row (City) | 1305 | +165 | — | — | — |
| | Kew | 1543 | + 76 | 22·2 | − 1·8 | 161 |
| Scotland. | Strathpeffer | 1131 | − 57 | 27·5 | − 4·7 | 223 |
| | Fort Augustus | 976 | + 86 | 43·9 | − 0·7 | 202 |
| | Aberdeen | 1304 | − 97 | 28·0 | − 2·7 | 194 |
| | Edinburgh | 1270 | +114 | ‡22·1 | − 1·7 | 200 |
| | Marchmont | 1241 | − 90 | 30·7 | − 3·7 | 181 |
| | Glasgow | 1053 | − 42 | 35·8 | − 2·9 | 206 |
| Ireland. | Dublin (Phœnix Park) | 1468 | − 62 | 24·4 | − 4·1 | 221 |
| | Birr Castle | 1285 | − 65 | 33·4 | + 0·4 | 230 |
| | Armagh | 1300 | + 10 | 33·1 | + 1·2 | 218 |
| | Valentia | 1331 | −126 | 50·4 | − 6·1 | 259 |

* No trustworthy average.
† A day with at least 0·01 inch.
‡ These figures are for Leith.

## PYOCYANASE IN THE TREATMENT OF DIPHTHERIA.

IT is well known that the bacillus pyocyaneus forms a powerful bacteriolytic ferment. This exists in the bodies of the bacteria as an insoluble zymogen, but upon the autolysis of the bacteria it is set free in the culture medium as a soluble enzyme. To this substance Emmerich applied the name of "pyocyanase," and it has been found that not only has it the power of killing and breaking up the organism from which it is derived but also many other bacteria, including the diphtheria bacillus, the members of the colon group, streptococci, and staphylococci. Pyocyanase free from bacteria is prepared by filtering a fluid culture of bacillus pyocyaneus of some weeks' growth through a Berkefeld filter and then concentrating it to one-tenth of its volume in a vacuum apparatus. The salts and certain toxic substances are then removed by dialysis. It is then tested to prove it free from such toxic substances. It is employed in a watery solution and applied either by swabbing or spraying. An interesting account of this substance and its employment in the treatment of various diseases of the throat, especially diphtheria, is given by Dr. Karl Zucker of Graz in the January number of the *Berliner Klinik*. He employs from one to three cubic centimetres of the fluid made warm and swabs the pharynx vigorously two or three times after vigorous gargling. The process is repeated in from five to ten minutes. Where the process is rapidly spreading pyocyanase is applied in the form of a spray. Dr. Zucker records his results from this treatment in diphtheria, some of the cases being treated with pyocyanase alone, while others received the ordinary antitoxic serum as well. He finds that pyocyanase exerts a favourable influence upon many cases of diphtheria of the pharynx, and not only upon the local condition but also upon the general state. He also finds that the use of pyocyanase does not prevent or hinder the use of antitoxic serum, to which it is often a useful adjuvant, especially in cases where the membrane is slow to clear off and in those with septic complications. He explains its actions by stating that it destroys the bacilli in the mucous membrane and in the false membrane, and that it prevents the growth of those organisms which are not killed. It also acts as a solvent to the false membrane and promotes the healing of the diseased mucous membrane. In the *Münchener Medizinische Wochenschrift* of Jan. 26th Dr. Julius Grósz and Dr. Helene Bán of Budapest record their experience of this substance and arrive at conclusions very similar to those of Dr. Zucker. They employed antitoxic serum as well as the pyocyanase in every case. They administered the latter substance as a spray and in the form of an inhalation. For pharyngeal cases the spray was directed upon the pharyngeal walls, while in laryngeal cases a special spray was employed by means of which the particles of spray were directed upon the mucous membrane of the larynx. They preferred this method to that of inhalation from an ordinary steam inhaler owing to the fact that the substance reaches the larynx undiluted. The spray was used from two to three times daily in mild cases, and from five to six times in severe ones. They employed this treatment in 20 cases of severe diphtheria, 16 of which involved the larynx. Three cases died, and of these two were admitted in a hopelessly grave condition, while the third died from pneumonia. They regard the action of the pyocyanase as of considerable value. It caused a more rapid disappearance of the membrane than occurred in cases treated with serum only. The temperature rapidly returned to normal and the good influence of pyocyanase upon the general condition was striking. They did not observe any ill-effects from its use and the only disagreeable result was

that sometimes after spraying the larynx sickness resulted. They advise that in using the spray for the larynx small quantities should be used frequently rather than vigorous spraying at any one time in order to avoid too much being inhaled. Dr. Grósz and Dr. Bán quote with approval the opinion of Emmerich that a procedure which has shown such results is worthy of a careful trial.

## PURE SODA WATER.

AN excellent movement was begun a few months ago with the view of affording some guarantee to the public that the aerated waters supplied to them were pure and manufactured under strictly sanitary precautions. It is gratifying to be able to state that the movement so well begun has now grown to such proportions that practically every manufacturer of aerated waters of repute has approved its objects and has thrown in his lot with it. The result must be a great gain both to the public and the trade, and the members of the London Bottle Exchange and Mineral Water Trade Protection Society who have thus determined to comply with the salutary rules and regulations outlined by the medical officer of the City of London Corporation are to be heartily congratulated on their sound and enlightened policy. It may be remembered that this step was taken as the result of an inquiry in the City last year which brought to light the fact that soda water was not always as clean as it should be, and that it was manufactured sometimes under conditions proving a neglect of common sanitary precautions. It is satisfactory to be assured that this reproach is being removed, especially in view of the large quantities of aerated waters consumed in one form or another by the public.

## THE ETIOLOGY OF BERI-BERI.

IN THE LANCET of Feb. 13th, p. 451, we published a very interesting report on an inquiry concerning the etiology of beri-beri by Dr. H. Fraser and Dr. A. T. Stanton, of the Institute for Medical Research, Kuala Lumpur, Federated Malay States. Our readers are well aware that up to the present no satisfactory solution of the problem respecting the true nature of the disease has been obtained. The malady is exceptionally prevalent in the Malay Peninsula and the East Indian Archipelago, where thousands of cases occur annually, so that in this region exceptional opportunities are offered for studying beri-beri. The medical staff of the Kuala Lumpur Institute, both past and present, have been in the foremost rank of those who have investigated this mysterious malady. Hamilton Wright, a former director of the Institute, advanced the view that beri-beri was due to a specific organism which was swallowed with the food and produced in the pylorus and duodenum a toxin which, when absorbed into the system, acted upon the peripheral terminations of the nerves, giving rise to the characteristic symptoms of the disease. But careful laboratory researches, conducted with the aid of all the modern methods of staining, have hitherto failed to isolate the specific bacillus. This investigator dissented strongly from the view that the essential cause of beri-beri was any food-stuff, or deficiency of any constituent of such food-stuff. Daniels, also a former director of the Kuala Lumpur Research Institute, suggested that the disease might be due to a protozoon, the parasite being conveyed to man by the agency of infected lice. As yet no satisfactory proof of this theory has been obtained. Other investigators in the Malay Peninsula and elsewhere have been impressed with the fact that beri-beri is intimately associated with the consumption of rice. Attention was drawn to this by Braddon, and it was noted that Chinese and Javanese coolies suffered far more from the disease than Tamils or Malays, and that this difference was seemingly due to the method of preparing the rice, the latter always submitting it before it was husked to a process of "parboiling," while the Chinese and Javanese took no precautions of this kind and consumed their rice without any previous "curing." Bearing this difference in mind other observers in Kuala Lumpur, among whom may be mentioned E. A. O. Travers and W. Fletcher, endeavoured to test the theory by feeding the inhabitants of gaols and asylums in definite proportions with white or "uncured" rice, on the one hand, or with "parboiled" or "cured" rice on the other. Although these tests appeared to support generally the view that beri-beri occurred more frequently among the consumers of "uncured" rice, the objection was raised that the conditions of the tests did not exclude the possibility of previous infection of the floors or walls of the buildings in which the tests were carried out, nor did they exclude the possibility of the conveyance of infection by lice or bugs or other vermin which infested the wards in which the sufferers were confined. The report issued now by Dr. Fraser and Dr. Stanton, and mentioned by us at the beginning of this annotation, would appear to show that the investigations with the rice dietary were carried out under conditions which excluded the possibility of "place infection" or the conveyance of infection from previous cases by other agencies. Some 300 Javanese coolies were divided into two nearly equal parties and were set to work, after careful medical examination, in the construction of a new road through a virgin forest far from the complex and confusing conditions which interfere with observations in populous neighbourhoods. These coolies lived in new huts expressly erected for their use and under as healthy an environment as could be secured for them. The two parties were kept entirely distinct, some miles apart, and communications between them were strictly prohibited. One party was fed on "cured" rice as the staple article of diet and the other on "uncured" rice, which they much preferred. After the expiry of about three months beri-beri appeared in the party which was fed on "uncured" rice, and as soon as a sufficent number of cases had been noted this rice was stopped and "cured" rice given. No instances of beri-beri appeared among the other party fed on "cured" rice. It may be further mentioned that all the sufferers from beri-beri were at once put on the "parboiled" rice diet and quickly recovered. The details of the inquiry are set out in the report of Dr. Fraser and Dr. Stanton with great clearness in temperate language and no attempt is made to force conclusions. The summing-up of the authors is characterised by extreme moderation. They content themselves with finally expressing the opinion that the disease is not a communicable one and that the general results obtained by them "lend support to the view that the disease beri-beri as it occurs in this [the Malay] Peninsula has, if not its origin in, at least an intimate relationship with the consumption of white [uncured] rice and justify further research along these lines." In this opinion we entirely concur and we look forward to a further contribution promised by these investigators on the same subject to be issued later by the Kuala Lumpur Institute.

## THE UMBERTO I. PRIZE IN ORTHOPÆDICS.

THE Rizzoli Institute of Orthopædics in Bologna announces that the second quinquennial competition for the Umberto I. prize has been open since the beginning of the present year, and will remain open until Dec. 31st. The prize, which is of the value of £140 (3500 lire), will be awarded by the provincial council of Bologna to the medical practitioner of any nationality who shall submit the best original contribution, whether literary or instrumental, to the science of orthopædics. Candidates should forward three copies of

their papers or notes explaining instruments and appliances, and such papers must either have been published within the last four years or else not have been published previously. Papers may be written in Italian, French, German, or English; they may be sent in anonymously under a *nom-de-plume*, with their authors' names in a sealed envelope. Applications for entry and for the regulations should be made to Dr. Giuseppi Bacchelli, president of the Rizzoli Institute, Bologna, Italy.

## SOME TOXIC EFFECTS OF THE COMMON ANTISEPTICS.

IN a recent number of the *Archives Générales de Médecine* M. Mercade contributes a useful paper on the toxic effects that may follow the excessive use of some of the common antiseptic agents in surgical practice. Mercuric chloride rarely produces more than a local irritation, but occasionally its use is followed by signs that it has been absorbed. An immersion of the hands for five minutes in a solution of the salt has produced a metallic taste in the mouth, and salivation, ulceration of the gums, and other symptoms of mercurial poisoning have been observed. The danger of such unpleasant symptoms is greatest when the antiseptic solution is retained in natural cavities or in the recesses of lacerated wounds. In such cases diuretics should be given to eliminate the poison, stimulants should be given for collapse, and stomatitis may be treated with potassium chlorate. Carbolic acid may produce local symptoms of a more or less severe character, including pain, erythema, an eruption of small vesicles, and gangrene. It is interesting to note that while strong solutions of carbolic acid are to be avoided, weak solutions may prove still more dangerous owing to the greater penetration of solutions containing less than 5 per cent. of carbolic acid. The danger of producing gangrene is increased by compression and by continuing the use of the dressings over a long period. In the early stages of gangrene the use of alkaline lotions is recommended, but in advanced cases surgical intervention may be necessary. In some cases the use of carbolised dressings is followed by general symptoms of carbolic acid poisoning, which are said to be relieved by the administration of a 5 per cent. solution of sodium or magnesium sulphate in order to convert the carbolic acid into an inert sulphocarbolate. It is well known that iodoform may produce an erythematous rash, but sometimes its use is followed by general toxic symptoms. In mild cases the symptoms noticed are distaste for food, nausea, agitation, insomnia, and occasionally delirium, iodides being found in the urine. In severe cases the onset is more sudden, gastric and mental disturbances being accompanied by a very rapid pulse. This condition may last for several days and may be followed by death from collapse if further absorption takes place. In such cases the use of iodoform should be stopped and medicinal treatment with opiates, bromides, and diuretics, with a 5 or 10 per cent. solution of sodium bicarbonate, is recommended. Boric acid, though usually considered harmless, has been known to produce severe and even fatal toxic symptoms. In one case death resulted from washing out the pleura with a 5 per cent. solution of this antiseptic. In another case, after the removal of inguinal glands, the wound was filled with powdered boric acid, with the result that after three days a local erythema was observed, accompanied by cyanosis, cold sweats, vomiting, and cold extremities. The temperature rose and the patient died in delirium. Hydrogen peroxide may cause pain when injected into the bladder and other cavities, and in the case of lacerated wounds it may open up fresh routes for infection owing to the rapid disengagement of relatively large volumes of oxygen from the liquid. In some cases the oxygen liberated has been known to enter the vessels and cause embolism. Bismuth subnitrate occasionally produces toxic symptoms when used as a dressing. It has recently become popular in the form of an injection, but several cases of poisoning have been recorded. The symptoms include vomiting, diarrhœa, fever, and obstinate hiccough, the urine assumes a blackish tint, and a black line may appear on the gums which become painful. In such cases it is necessary to relinquish the use of bismuth in the form of the subnitrate.[1] Zinc chloride in strong solutions, or when allowed to remain in prolonged contact with the tissues, may produce sloughing.

## THE SICULO-CALABRIAN CATACLYSM.

AMONG the victims of the recent earthquake which devastated portions of Calabria and Sicily were a number of medical men, many of whom have left widows and orphans. The Belgian *Progrès Médical* is anxious to get up an international subscription among the medical profession for aiding the widows and orphans of those medical men who have been killed or have disappeared owing to the results of the earthquake. A number of international committees have been formed in France, Germany, Russia, and other countries, and we bring the subject before our readers both as an appeal for their professional brothers who have suffered and as an instance of the solidarity of the medical profession. Members of the medical profession as a rule are by no means blessed with an overplus of this world's goods, but even a small subscription would be an earnest of goodwill, and be it remembered that a number of small subscriptions very soon mount up into a large one. Professor Jacobs of Brussels has kindly offered to receive any subscriptions for the fund which may be sent to him at Boulevard de Waterloo, 53, Brussels.

## POISONING BY MUSCARINE.

AN unusual cause of death is reported in the *Pharmaceutical Journal* of Jan. 2nd. In September last a man, aged 33 years, applied a liniment for gnat bites. On returning home he became ill and died on Dec. 10th. The attendant physicians at first thought that he was suffering from multiple neuritis, but they subsequently came to the conclusion that the acute inflammation of the peripheral nerves was caused by muscarine poisoning. It was ascertained that after applying the liniment at night the patient was in the habit of rubbing off the scabs in the morning and then applying the liniment again. Sir James Barr and Dr Nathan Raw had not known a previous case like it and the former came to the conclusion that the cause of death was muscarine poisoning. The contents of two bottles of the liniment were examined by Dr. Benjamin Moore, who found that the chief constituents were soap and alcohol with a small amount of muscarine, a potent poison found in certain fungi. He said that it has the property of stopping the heart in a relaxed condition and causes paralysis of the nervous system. It could not be determined whether the poison had been taken or used by the deceased in sufficient quantity to cause death. On account of the idiosyncrasy of individuals to this poison the minimum quantity required to produce a fatal result is not known. The chief symptoms observable before death are paralysis of the limbs, followed by that of the muscles of respiration, death occurring from respiratory failure. Among other symptoms mentioned were great pallor of the skin, perspiration, and salivation. Dr. Moore, replying to the coroner, said that the usual cause of death from this poison was by eating fungi containing muscarine, and that in the opinion of experts it acted more potently through the

[1] See the letter from our Paris correspondent on p. 582 of this issue.

skin than when taken by the mouth. The jury returned a verdict of "Death from misadventure brought about by muscarine poisoning." According to Martindale and Westcott's "Extra Pharmacopœia," the name muscarine has been given to four different substances, the fly agaric, *Amanita muscaria*, yielding the alkaloid to which the name was originally given. Another muscarine is obtained by the action of nitric acid on choline hydrochloride and a third by the action of moist silver oxide on an addition product of neurine and hypochlorous acid. The fourth substance of this name contains one molecule of water less than the preceding and is called anhydro-muscarine. Muscarine is easily soluble in water and in alcohol, and cannot be extracted from the fungus by any of the usual alkaloidal solvents. It is associated with choline in *Amanita muscaria* to the extent of about 1 per cent., of which the greater proportion is choline.

## SUNLIGHT IN THE TREATMENT OF DISEASE.

THE value of sunlight in the treatment of disease seems to be very imperfectly appreciated, though Finsen's discoveries have directed attention to the subject. Whether in certain diseases as good results may not be obtained from exposure to sunlight, when the climatic conditions are suitable, as by his elaborate methods may be asked. Cases of cure of ulcers and of epithelioma by exposure to the sun and of laryngeal tuberculosis by the rays of the sun reflected on the larynx by a laryngeal mirror have been recorded by German writers. This treatment seems to have been in all cases carried out at sanatoriums situated at high altitudes, where sunlight is very powerful. At a meeting of the Académie de Médecine of Paris on Nov. 24th, 1908, M. Hallopeau and M. Rollier made an important communication on Treatment by Direct Sunlight at High Altitudes. The paper, of which a short notice was given previously,[1] was based on cases treated at M. Rollier's clinique at Leysin. The writers referred to the profound influence of sunlight on the nutrition of living beings, which is at once bactericidal, oxidising, reducing, analgesic, and sclerogenic. But not only bacteria but also toxins and ferments are more or less profoundly affected. Roux and Yersin have shown that filtered cultures of the diphtheria bacillus lose their toxicity in some hours if exposed to the air and sun, while this property is preserved for several months in a closed vessel shaded from the light. The erythematous and bullous eruptions and the pigmentation produced by sunlight are well known. Is the action of sunlight superficial or does it extend more deeply? Finsen thought it was only superficial but M. Hallopeau and M. Rollier think that though this is true for the electric light and for the sunlight of Copenhagen it is not true for the sunlight of Nice and *a fortiori* for that of high mountains. M. Malgat has shown that sunlight falling on the back of the chest affects a photographic plate placed against the front. The difference between sunlight at high altitudes and sunlight at the sea level depends on the fact that the atmosphere absorbs a considerable portion of the sun's rays, especially the infra-red and the ultra-violet. Violle has shown that this absorption amounts only to 6 per cent. at the summit of Mount Blanc, whereas at the sea level it is 30 per cent. At his sanatorium at Leysin M. Rollier finds that tuberculosis in all situations, excepting perhaps the meninges and brain, is greatly modified by sunlight. He carefully performs insolation in a progressive manner. At first insolation is limited to the affected region and is of short duration, the early sittings lasting only five or ten minutes. The production of bullous dermatitis, which might easily be provoked, especially in blonde subjects, is thus avoided. After a certain number of sittings, varying in different persons, the skin becomes pigmented; then the sittings can be prolonged for hours without inconvenience. At the same time the exposure is made more extensive until a general "sun bath" is given. At first the head is protected by a hat of white cloth or by a screen, but soon it may be exposed like the other parts and the patient assumes the appearance of a mulatto. The treatment can be adopted in winter as well as in summer. M. Rollier has observed that it confers a special form of resistance on the skin; it favours the healing of wounds, gives a local immunity against varicella, and the bronzed parts are seldom the seat of acne or boils. Another remarkable effect is the relieving of pains, whether superficial or deep. A favourable influence is exercised on the blood. The number of red corpuscles and the proportion of hæmoglobin are increased. Finally, the rays, penetrating deeply, increase the metabolism of all the tissues; they are a powerful tonic. M. Hallopeau showed to the Academy 185 photographs of 35 patients taken by M. Rollier illustrating curative effects on the most diverse forms of tuberculosis. They represented the patients on their arrival and the different phases of recovery. Improvement was evident in a few weeks and recovery usually in some months and in the most serious cases in one or two years. Recovery was constant and complete in tuberculosis of parts in which the thickness was so little as to allow complete penetration of the rays of light, even when there was suppuration. This was true for the feet, the wrist, the elbow-joints, the sternum, and the tendon sheaths. In the deeper parts recovery was equally frequent, except when suppuration had led to an infected sinus. Then there was obtained in half of the cases only more or less pronounced improvement. The following are some of the statistics: hip disease, 18 non-suppurative cases, all cured; nine cases of "closed" suppuration, all cured; eight cases with infected sinuses, three cured, three improved, one unimproved, one death from amyloid degeneration with extensive pulmonary lesions; Pott's disease, 13 non-suppurative cases, 12 cured and one death from general miliary tuberculosis; seven cases of closed suppuration, all cured; and four cases of suppuration with infected sinus, one cured, one improved, one not improved, and one death from pulmonary disease.

[1] THE LANCET, Dec. 5th, 1908, p. 1714.

## BLOOD PRESSURE IN SURGICAL SHOCK.

IN the December number of the *International Journal of Surgery* Dr. A. J. Walscheid of Union Hill, New Jersey, has published a paper on the significance of blood pressure in surgical shock. He distinguishes between shock and collapse, maintaining that as in collapse there is loss of blood the vaso-motor centres are directly depressed, while in shock there is a preceding reflex stimulation though ultimately the vaso-motor centres are exhausted. He relates two cases in support of his opinion. In the first there was collapse owing to post-partum hæmorrhage, and the blood pressure fell to 80 millimetres. The uterus was made to contract by hot douches and then in addition to bandaging the limbs and raising the foot of the bed 800 cubic centimetres of hot normal saline solution were injected. Within half an hour the blood pressure had risen to 125 millimetres and the pulse was 100. The patient made an uneventful recovery. In the other case, a man, 32 years old, was struck on the back by a locomotive. No bones were broken but there was profound shock. The pulse was 152 and the blood pressure was 80 millimetres. Saline intravenous infusions were given and in 18 minutes the blood pressure had risen to 120 millimetres. After 25 minutes, when 200 cubic centimetres of saline solution had been given and the blood pressure had fallen to 115 millimetres, twitchings occurred and the saline solution was discontinued. Ten minutes

later the blood pressure was only 105 millimetres and it was clear that the shock was returning. 30 minims of adrenalin and 30 minims of ergotole were given hypodermically and saline solution was infused into the left axilla. Under a continuance of the treatment the blood pressure rose to 125 millimetres and recovery followed. From these cases Dr. Walscheid deduces that in collapse the mere infusion of saline solution is sufficient to raise the blood pressure, but that in shock the infusion of saline solution alone is insufficient, and that a contractor of the blood-vessels is needed in addition.

## RECENT ADVANCES IN OUR KNOWLEDGE OF DIABETES.

IN the University of Pennsylvania *Medical Bulletin* for January Professor James Tyson has called attention to some recent advances in our knowledge of diabetes. In the condition of acidosis, to which diabetic coma is due, the tissues protect themselves up to a certain point by producing ammonia to neutralise the acid and large quantities of the resulting salts are excreted in the urine. In health the ammonia excreted in the urine is a measure of that introduced with the food and the same is also true of mild cases of diabetes in which from 1 to 1·5 grammes of ammonia may be found in the urine in the 24 hours and the relation between the total nitrogen and the ammonia nitrogen is as 10 or 12 to 1. In severe diabetes, on the other hand, the ammonia amounts to from 4 to 6 grammes, and even to 10 grammes when coma is threatening. Magnus Levy calculated that each gramme of ammonia in excess of the amount due directly to the food ingested corresponds to about 6 grammes of oxybutyric acid. But when fixed alkali is given the ammonia excreted is much reduced. Thus in a case under the care of von Noorden the amount fell from 6·9 grammes to 2 grammes when 30 grammes of sodium bicarbonate were given. On this fact the alkaline treatment of diabetic coma is based. Although the results are not always as good as the theory might suggest they are encouraging. Professor Tyson therefore advises that all diabetics should be given sodium bicarbonate, either as Vichy water, which is sufficient in mild cases, or a drachm or more of the salt thrice daily, which may be added to Vichy water. He does not wait until the cases are severe but gives the alkali in mild cases as a prophylactic. Still less justifiable is it to wait until coma has set in, for although astonishing temporary results are produced by intravenous and even by hypodermic injections of alkali, they are not permanent. The bodies found in the urine in diabetic coma are acetone, diacetic acid, and oxybutyric acid. They were formerly supposed to be the results of glucose metabolism but are now known to be derived from proteins and fats. Hirschfeld has shown the important fact that when fatty acids are catabolised in the body without a certain amount of carbohydrate being metabolised with them, the conditions are favourable for the abnormal formation of acetone bodies. This discovery has revolutionised our treatment of diabetes. It explains the fact that in severe cases of diabetes carbohydrates, instead of being harmful, are necessary in order to secure proper protein metabolism and to prevent acidosis. In diabetes certain carbohydrates are more easily assimilated than others. This has long been known of sugar of milk and of fruit sugars. Recently the same has been claimed for certain starches. Mosse holds that of starchy foods the potato is the least harmful. Von Noorden has claimed that oatmeal is even better.[1] Hence his "oat cure." He states that in many cases of diabetes, and particularly severe ones with marked acetonuria, much less sugar is excreted when large quantities of oatmeal are eaten than under a strict diet. Von Noorden has constructed diet tables for this treatment in which different diets are given on various days. Thus there is the starch day, the stringent day, the vegetable day, and the oat day. These terms are not to be taken literally: they mean that the ingredient mentioned predominates in the diet on that day but is not taken exclusively. But the pendulum must not be allowed to swing too far in the admission of carbohydrates, which may cause great harm. Professor Tyson considers that they are demanded only in the severe cases in order to prevent acidosis. For mild cases he believes that the best diet is that which removes sugar from the urine. However, he has seen a patient gain weight and improve wonderfully on von Noorden's diet, even when considerable starch was allowed and the amount of glycosuria was high.

[1] THE LANCET, July 11th, 1908, p. 119.

WE regret to announce the death after a very short illness of Dr. John Lindsay Steven, physician to the Western Infirmary, Glasgow. Dr. Steven played a prominent part in the medical life of his city. We hope to publish some notes of his career in an early issue.

A TELEGRAM from the officer administering the Government of Mauritius to the Secretary of State for the Colonies states that 1 case of plague and 1 death occurred during the week ending Feb. 14th.

Dr. Schuman Leclercq, Carlsbad, Austria, has been made Chevalier of the French Légion d'Honneur.

## MOTORING NOTES.

BY C. T. W. HIRSCH, M.R.C.S. ENG., L.R.C.P. LOND.

As so many of the profession either possess, or contemplate acquiring, a motor-car, I think a few remarks on how a car is constructed might be of interest to my colleagues. I therefore recently accepted the kind invitation of Mr. E. Lisle, sen., to visit the Star Motor Works at Wolverhampton, where beyond such articles as tyres, ignition appliances, raw rough castings, and steel, every part of the Star car is made on the premises. On going round their factory, even so early in the year as the middle of January, I found it like a bee-hive, every atom of available working space being occupied in the production of some part or other. As in all engineering works the machine shop, with its bewildering medley of belting, shafting, and uncanny looking lathes, immediately attracted attention. Here are tools of the very latest type, designed expressly for the production of the many parts contained in a modern automobile. The rough cylinder castings are put on a planing machine and so the end which is afterwards to be bolted down to the crank case receives a perfectly true face. Then in another machine the hole in the cylinder where the piston will work is bored perfectly round and of the exact size, then a template or jig is attached, and through holes in this guide cutters bore the holes for the valves and cylinder stud holes, which are consequently always true, and thus a spare part will always fit. The pistons are also castings and are all ground by a special grinder to a dead size which insures that they are all absolutely interchangeable with one another, and this remark applies, in fact, to all parts in the engine. The crank shaft is cut out of a flat piece of special steel, being roughed out by shaping and milling machines; it is then mounted in the lathe centres on its axial line and the parts that will lie in the crank case bearings are turned up, then blocks are fitted in the spaces between the cranks, thus preventing any springing, and the crank pins are turned and the whole shaft is machined and ground true to size, and after all these operations it is handed over to the examiner for gauging, and he is most exacting, "ploughing" for the slightest flaw or fault. Here, too, I noticed crank and gear boxes being machined and bored, jigs also insuring that all these parts are alike and interchangeable. The

bearings of the engine are made of a special phosphor-bronze and I remarked that particular attention was paid to the bedding of these brasses. Red lead is smeared over the part and the shaft is rotated by hand, if it binds in any part the defect is thus seen, and a careful use of the hand scraper, with constant trials, results in a perfect fit, so, providing they are kept lubricated, they should run many thousands of miles without attention. A machine that was most interesting was a sort of modified lathe in which the cams on the two to one shaft are machined. A dummy of the desired shape is rotated at the back of the machine and this acts upon the cutting tool in such a way that it pushes it back or allows it to come forward and cut according to the shape of the dummy, and so the work is cut to exactly the same conformation. The connecting rod of the piston is a forging and the small end has a steel bush which is made a perfect fit on the gudgeon or pin that holds the rod inside the piston. The gudgeon is very slightly tapered and is a "drive" fit; it is hollowed, and oil, which is picked up by grooves cut in the piston, passes through this hole and so lubricates the small end bearing. The big end has scraped phosphor bronze bearings, fitted in two halves, which are oiled by splash. After the engine has been fitted up it is passed into the test house, where it is tested by being made to drive a dynamo, and the voltage produced shows the power developed by the engine. The gears and timing pinions are all machined out of solid steel and cut by special milling machines, most of which act automatically, and as these wheels have in carrying out their duties to slide into and out of engagement with other ones, the ends of the teeth are rounded off by a small automatic rotating tool. They are then case-hardened, which operation is somewhat shrouded in mystery; it is carried out in a special furnace, and it was only here that I found my guide rather reticent, the explanation being that this process is a secret one. Unfortunately, I was not aware of this at the time and being an enthusiastic amateur I rather fear my questions must have worried my cicerone. Other gearing wheels, such as the bevel and crown wheels used in the transmission gear, are cut on special machines, and as accuracy here is most essential are ground perfectly true.

I was able to see various gear boxes in different stages of progression; the transmission is by means of a leather-faced coned clutch to the through shaft in the gear box, and so the power passes directly to the crown wheel and thus to the wheels on the top gear, but in the higher powered cars the direct drive is on the third speed, the fourth being geared up. On this and the lower speeds the drive is by pinion from the first half of the through shaft to the lay shaft and then back by gearing to the second half of the through shaft and thus, as in the direct drive, on to the crown wheel, the end of the second part of the through shaft revolving in a special bearing in the first portion. As I have mentioned in my Motoring Notes on Oct. 17th, 1908, this method of transmission answers well, providing care is taken to keep the lubricant in the gear-box fairly liquid and occasionally to squirt oil with an oil-pump into the bearing in which the second half of the direct shaft works in the first portion. Instead of the now old-fashioned side quadrant and lever for changing the gears the "gate change" is employed for engaging the different gearings. The live axle casting is of malleable cast iron and, now that it is possible to endow castings with the toughness and ductility of wrought metal by modern means of annealing, these complicated parts, which would be difficult and expensive to forge, can be more cheaply and just as well so constructed and can stand repeated stresses which back-axle casings are certainly subjected to. Like the other castings this one has also to be faced-bored and turned. The propeller shaft has two universal joints, one at each end, so it is immaterial if the crown wheel is not quite true with the gear-box. Hoffmann ball bearings are fitted both in the gear-box and live axle as well as to the four wheels. A useful addition to the general type of steering gear is that the spindle of the steering sector is fitted in an eccentric bush, which bush is held in place by a screw, so when as a result of wear there is play it can be easily taken up by taking out the screw and turning the bush round and so the steering sector is thrown further into mesh with the steering worm. Those who have driven cars will appreciate this refinement. The petrol is gravity-fed, which is, I believe, the best method, but in case the supply runs short on a hill I suggest that the petrol tank plug should be tapped, so that the end of the tyre pump can be attached, and the tank on emergency so converted into the pressure kind, as then, though the fluid might not reach by gravity the carburettor pipe on a hill, the supply would continue. The carburettor is a White and Poppe, which has the usual float feed, but with a needle, the height of which can be adjusted, and with a cylindrical plug throttle so arranged that at each and every position the proportions of air and petrol taken into the engine are always similar, thus giving great engine flexibility. But the features I like are that the jet can be easily got at and that a filter is fitted which can quickly be cleaned. Ignition is by the new Bosch dual system in which the same plugs are employed for the high tension magneto and the coil and accumulator; this, I understand, answers well, but personally I must say I prefer having separate plugs for each method of firing the mixture, and the Star Company, though advocating the other, will of course fit any variety desired.

In the assembling department the frame of the future car is set up on supports or trestles, pressed steel of deep section being employed for the frame. At the time of my visit I noticed many being fitted up. In some the engine, after having been passed in the testing-room, was being fixed; others were having the axles and springs attached, and some cars were much nearer the end of their journey through the works, the gear-box having been set true with the engine and fixed, while other hands were attending to the radiators and attaching the various pipes for the water circulation, and yet others were seeing to the electric leads as well as to the magneto and pump and steering column, with the various controlling levers attached to it. The one feature that struck me here was that all the different parts seemed to come finished, and that in assembling the erectors did not have to file one unit to fit in with another; it was but a question of bolting together; packing was not needed; the components had all been designed so as almost to drop correctly into their respective positions. This certainly appealed to me, as I remember when in the old days I took one of my earlier cars to pieces in putting it together no end of bits of tin, asbestos, and other packing had to be used to get the gear-box true with the engine. Another feature which should commend itself to all who have had cars is that the water-circulating pump is not friction-driven but worked by gearing off the two to one shaft, and the magneto is driven by a prolongation of the pump spindle which can be easily detached, as the coupling is by a very simple form of dog-clutch. On a good many cars, one is told, all you have to do to remove the magneto is to undo two nuts, and this is true, but oh! on some those only two nuts want a lot of undoing, they are so inaccessible, and even then when with snake-like contortions they are undone it is a job to manœuvre the magneto out of its resting-place. Not so on the Star cars which I saw being put together; here a thumb-screw at the side of a band was all that held the magneto in place and it could be undone in a second. I have often wondered what it was that made a buyer plump for a particular make of car, and if I was asked what one point, other things being equal, would influence me I should say accessibility, and especially ease to remove the magneto and to get at the carburettor jet and the valves. On the Star all these points seem to have been considered. A most important part of a motor-car is the brake. The Star follow the orthodox practice and fit an expanding internal one on the gear shaft and two powerful metal-to-metal expanding ones on the back wheels. The drums on which these work are of malleable cast iron and the expanding portions are covered with gun metal, which can be easily removed and, in the case of wear, replaced. I rather think that if I was indulging in a new mount, in lieu of the gear-shaft brake I should order the Allen-Liversidge front-wheel brake which was shown at the recent Olympia show and about which I wrote in THE LANCET of Nov. 14th, 1908. The lubrication is by a pump lubricator driven by a band off the cam shaft and is in every way preferable to the form in which pressure from the exhaust is used.

The coachbuilding works are well worth particular mention, being equipped with an up-to-date plant, having circular and band saws, planing machines, &c. The metal portion of the bodies are made in the form of stampings from the company's own design, and to supply the demand for bodies and to insure early deliveries I am informed that no less than

from 130 to 150 bodies were going through the process of building, painting, and finishing at the time of my visit. The Star cars are made in seven different sizes; some, however, would not appeal to the medical man for professional use. Those that seemed to me as suitable for medical men are made in four sizes and are, I should certainly say, within the reach of the resources of all classes of practitioners. The 8-h.p. and 10-h.p. cars will appeal to the man of moderate means, some of the designs in the body work being most suitable. A very handsome Victoria body, known as the "Doctor's Victoria," is fitted with a leather hood, a folding glass screen, and side doors, and can very well be termed an "all-weather" car. This body can be fitted to the 8, 10, 12, or 15-h.p. cars. A cheaper type of two-seated body on the 8-h.p. and 10-h.p. cars makes a very handsome run-about car for a medical man. These can also be fitted with a hood and screen. The 12 and 15-h.p. cars are more luxurious modes of conveyance, taking the shape of broughams or landaulettes, and are suitable for anyone wishing for a closed carriage and employing a chauffeur. Another form of closed conveyance is supplied in the 10, 12, or 15-h.p. cars in the way of landaulette or brougham type of body usually known under the term of "coupé." This is made for the purpose of being an entirely closed carriage and is designed to carry two passengers and is driven from the inside.

The 12-h.p. seemed to me an ideal car for a medical man, though the 15-h.p. has the advantage of four speeds instead of three, and though it is not of course essential to have four speeds, still in hilly districts it is much more pleasant, as many hills cannot be taken on the top speed but do not need the big drop that there is on three speeders between the top and second speeds, and it is then that the advantage of the third speed of a four-speeded car comes in, and this I especially noticed when taking a run with Mr. Lisle, jun., in a 15-h.p. Star. It was late when I had seen all over the works and we started to inspect that quaint town on the Severn, Bridgnorth, so famous for its castle and the picturesque Hermitage Hill. Firstly through Wolverhampton itself, and I thus could see how delightfully easy the car was to drive in traffic, picking up from a crawl on the direct speed in a remarkable way. The engine even for these times of silent machines is noticeably quiet and the carburettor showed how well it was adapted to give correct mixtures at all speeds, even when the throttle was suddenly opened after being nearly shut down in an unpleasant bit of traffic. As soon as the country was reached, so as to find out for myself how the engine pulled, I took over the wheel and found the car both simple and easy to drive. The leather-faced cone clutch took hold with delightful smoothness and the gate change speed, though I was not used to this type, worked easily and silently, so much so that I kept at the wheel both up and down a nasty curving hill which the car mounted easily on the third speed, and subsequently the car negotiated a gradient of about 1 in 8 without difficulty on the second, while the speed on the flat seemed more than ample. The antiquities of Bridgnorth rather delayed me and I had a train to catch at Wolverhampton and thus I had an experience of what the car could do when speed was needed. The car certainly seems suited for medical work, and what is more is good value for the price asked for it. It runs smoothly, and the Salop roads are an excellent test for smooth running; it is quite fast on the level and a good hill climber. The only trivial points that personally I should wish altered if I was buying one are that separate plugs should be fitted for each ignition system, and that means should be obtained to increase the tension of the clutch spring, which could easily be done by screwing the shaft and fixing a nut in front of the spring. This latter I understand is not really needed, only as I was once on a car in which the clutch did slip at an awkward moment through a weak clutch spring, I suppose I am rather a fidget on this trivial point. The manufacturers, I think it only right to say, have succeeded in certainly putting on the market a car well suited to the requirements of the profession, and one which will do most of its work on the direct speed. I should also mention that the brakes are very powerful, and that I found either set to hold the car in both directions on a really stiff hill.

AN EYE HOSPITAL FOR ABYSSINIA. — Dr. Steinkühler of Zittau has arranged to travel to Abyssinia for the purpose of establishing an ophthalmological clinic.

# SEVENTIETH ANNUAL REPORT OF THE REGISTRAR-GENERAL.

## I.

WE return to the consideration of the main points in this report, the recent issue of which we noticed on Feb. 6th in a leading article.

Particular reference is made in the report to the continued decline in the marriage rate and the consequent falling-off in the productivity of the English population. Whilst fully appreciating the importance of these changes as affecting the future welfare of our country Sir William Dunbar is evidently no pessimist. As becomes the official entrusted with the custody of the national registers, he is careful to set forth in their true proportion the facts concerning birth and death, for the accurate rendering of which he is responsible. Looking back over the years of birth registration we find that the English birth-rate attained the highest point in the year 1876, when it amounted to 36·3 per 1000 of the population. In order to measure the fall that has since occurred the mean annual rate in the quinquennial period 1876-80 has been adopted as a criterion. Calculated in terms of total population the fall in the birth-rate since that date has exceeded 25 per cent. Based on the proportion of births to women living at reproductive ages the fall amounted to 31 per cent., while the fertility of married women computed on the ratio of legitimate births to wives of conceptive ages showed a decrease of 27 per cent. In other words, if the fertility of married women had been the same in 1876-80 and in 1907 the legitimate births would have numbered more than 1,212,000 in the latter year instead of only 881,853, the number actually registered. Unfortunately, the birth registers are imperfect in this respect, that they contain no information respecting the age of mothers, consequently they do not afford the means of ascertaining the fertility of women at the several stages of the child-bearing period. Nevertheless, the Registrar-General estimates that during the past 30 years about 14 per cent. of the fall in the birth-rate is due to decrease in the proportion of married women in the female population at conceptive ages—i.e., in the interval between the fifteenth and the forty-fifth year, and that about 7 per cent. is due to the decrease of illegitimacy. With respect to the remaining 79 per cent. of decrease, although some of the reduced fertility may depend on the changed age-constitution of married women in the aggregate, there can, in the Registrar-General's opinion, be little doubt that much of it is due to deliberate restriction of child-bearing. The fact is significant that according to the latest returns the fertility of English wives is lower than that of wives in any other European country except France.

Sir William Dunbar gives interesting particulars of the present position of this country in respect of "natality," as compared with the several continental and foreign countries which contribute trustworthy returns. From a table in the report it appears that if the birth-rate of England and Wales be taken as a standard there are 12 continental countries with rates above, and only three (Belgium, Sweden, and France) with rates below, that standard. The rates were above the English standard by from 11 to 13 per 1000 in the Balkan States, by 9·1 per 1000 in Hungary, by 7·5 in Austria, by 6·1 in Germany, and by 4·5 in Italy. Although complete birth returns for the Russian Empire are wanting, it is of interest to note that the birth-rate there in the last five years averaged 20 per 1000 in excess of that of our own country. In Scotland, Switzerland, and Belgium the rate was about the same as that of England, whilst in Ireland it was 4·9 below and in France not less than 6·9 below that of this country. In Ontario the defect was equal to 6·3 per 1000 and in South Australia 3·6 per 1000, as compared with the English standard. The recent decline in natality is by no means peculiar to this country, a similar decline having been experienced in most of the principal countries of Europe, in New Zealand, and in the states of the Australian Commonwealth. If the birth-rates of the last five years be compared with those of 20 years earlier it appears that, with few exceptions, the decline has been remarkable. While the fall did not exceed 2 per cent. in Switzerland, 3 per cent. in Ireland, and 4 per cent. in Spain, it reached 14 per cent. in France and in Italy

and as much as 16 per cent. in Hungary, in Servia, and in England and Wales. Among the Australian colonies the fall ranged from 13 per cent. in Western to no less than 36 per cent. in Southern Australia.

Closely connected with the decline of the English birth-rate is the important question of the so-called "natural increase of the population," which is fully discussed by the Registrar-General. It is obvious that the periodical movements of the population are governed by two factors: (1) the balance between births and deaths, and (2) the balance between emigration and immigration. In this country, at all events since 1851, the births have always exceeded the deaths in number, and the emigrants have similarly exceeded the immigrants. Between the quinquennial period 1876–80 and that ended in 1900 the average rate of increase of population fell from 14·56 to 11·58 per 1000 living. This was due to the decline of the birth-rate having been more rapid than that of the death-rate; in the triennium 1901–03 the rate of natural increase again began to recover, owing to the relative decline of mortality having exceeded that of natality; but since that date this tendency has not been maintained, the rate of natural increase in 1907 having once more fallen and being only 11·27 per 1000 living.

Very intimate is the relation of the foregoing considerations to the question of mortality, especially among the younger members of the community. In the course of the last four decades of the nineteenth century the death-rate at all ages had fallen by about 15 per cent., but no corresponding reduction was recorded in the proportion of deaths at ages under one year, the ratio of these to total births having been very high and practically constant throughout that period. Since the opening of the present century, however, English infantile mortality has shown an appreciable decline. This may in part be due to recently increased attention to the terrible waste of infant life which still persists in this country. But there is no doubt that the succession of favourable seasons we have experienced since the date mentioned has considerably influenced this result. The fall of infantile mortality in the year 1907 merits special attention, for this was mainly due to the unprecedentedly low rate in the summer quarter.

In ordinary circumstances the loss of infant life is heavier in the third quarter than in any other part of the year, and so recently as 1899 the deaths under one year in the third quarter averaged more than a fourth part of the infants born in the same period. In the summer quarter of the year 1907, however, the deaths did not exceed 99 in every 1000 births and were fewer than in any other quarter of the year. It is commonly understood that hot and dry seasons are exceptionally destructive to child life; but there have been several cooler and wetter summers than that of the year under notice, and yet in none of these has infantile mortality fallen so low. From this it may reasonably be hoped that the favourable result in 1907 was in some measure due to increasing care in the feeding and general nurture of the little ones. There still remain in England many agencies that prejudicially affect infant life; prominent amongst these may be mentioned ante-natal influences, maternal ignorance and neglect, food contamination by flies, impure milk, insanitary environment, overcrowding, and the industrial employment of mothers. It will be remembered that in the report of the Duke of Devonshire's Committee on Physical Deterioration this topic was fully discussed, the opinion being there expressed that among the younger women of the present day there is evidence of increasing carelessness and defective sense of responsibility which can only be disastrous to the rising generation. With the statistics of the causes of infantile mortality we shall deal at a later stage; meanwhile, it is important to note that of the total mortality under the age of one year about one-third part occurs in the first month of life, and that of the deaths at this early stage about three-fourths are caused by a group of conditions that may conveniently be described as immature. The conclusion can hardly be avoided that much of the waste of infant life at the present day is due either to ignorance or to callous neglect on the part of the mothers. It is important to note that among male infants the proportion of deaths from immaturity—i.e., from premature birth, congenital defects, atrophy, &c.—exceeds that among female infants by from 20 to 27 per cent. It is common knowledge that the mining, textile, and pottery districts of England how very badly in the scale of infantile mortality; not only are the rates excessive in many of the large boroughs of these districts, but they are equally so in most of the smaller towns. In Staffordshire, Cheshire, Lancashire, and Glamorganshire there are several groups of towns carrying on the industries here specified. In not fewer than eight of these towns—viz., Bilston, Longton, Tunstall, Stalybridge, Burnley, Farnworth, Ince-in-Makerfield, and Aberdare—the proportion surviving their first birthday does not amount to one in every five children born. On the other hand, the surprisingly low death-rates prevailing at those ages in the towns of Erith, Swindon, and Burton-on-Trent clearly prove that industrial urban life is not necessarily incompatible with the well-being of infants. Speaking generally, it is found that excessive waste of infant life is associated with a high birth-rate as well as with overcrowding and with undue industrial employment of married women; nevertheless, there are several towns with a low birth-rate and little overcrowding and with no excess of factory employment, but in which the child mortality is still very high. Towns such as these not only produce a smaller number of children but lose an undue proportion of that smaller number. Whilst there are several areas in urban as well as rural England where infant mortality is low, comparing favourably with the healthiest places abroad, there are, on the other hand, many industrial centres where persistently excessive death-rates indicate gross neglect in the conservation of infant life. It may fairly be contended that any future reduction in the mortality of young children will depend on a due recognition of responsibility by parents quite as much as on any practicable improvement of local sanitary conditions.

With respect to the Notification of Births Act, which has recently received the Royal assent, Sir William Dunbar remarks that although only an adoptive Act it is already in force in 124 urban or rural districts in England. What may eventually result from its general adoption it is, of course, too early to judge, but he expresses the hope that the Act, "along with other motive forces, will prove an effective barrier with which to stem the tide of infantile mortality."

From the brief summary which we have given of this section of his report it is evident that the Registrar-General by no means subscribes to the depressing view entertained by some persons concerning the outlook presented by the declining productivity of the English population. Whilst not disputing the seriousness of that decline, he adduces reasons to show that its influence is to a considerable extent counteracted by declining fatality among the survivors. This position he supports in the following way. "The birth-rate in 1907," he says, "was 26·3 per 1000, against an average of 28·4 in the ten years immediately preceding. But in those ten years only 855 out of every 1000 infants born lived to be one year of age—that is to say, the birth-rate of 28·4 corresponded to a 'one year old rate' of 24·3. In the year 1907 the rate of survival to one year was 882 per 1000, and therefore the birth-rate of 26·3 per 1000 corresponded to a 'one year old rate' of 23·2. Therefore, although the birth-rate in 1907 showed a falling off of 2·1 per 1000 of population, compared with that of 1897–1906, the 'one year old rate' showed a falling off of only 1·1 per 1000; and I would point out that further calculation shows that if the rate of survival to one year of age could have been raised to 924 per 1000 in 1907 the 'one year old rate' in 1907 would have been 24·3, or precisely the same as in 1897–1906, notwithstanding the reduction in the birth-rate. If, therefore," he concludes, "the rate of infantile mortality should still further fall it will have an important bearing on the effective upkeep of the population."

## THE ROYAL COLLEGE OF SURGEONS OF ENGLAND: THE HUNTERIAN ORATION AND FESTIVAL DINNER.

THE Hunterian Oration was delivered on the afternoon of Feb. 15th, when the Prince and Princess of Wales honoured the College by their attendance. Their Royal Highnesses were received by the President, the Vice-Presidents, and the Secretary, and proceeded to the reception-room, where in the presence of the members of the Council the Prince signed the roll and assumed the gown as an honorary Fellow, after receiving his diploma from the President. The whole company then proceeded to the theatre, where

the President, Mr. HENRY MORRIS, delivered the Hunterian Oration, which we print on the first pages of our current issue. Sir W. Watson Cheyne, Vice-President, occupied the chair. Besides the Royal visitors the assembly included Adeline Duchess of Bedford, the Earl of Rosebery, who is an honorary Fellow of the College, the President of the Royal College of Physicians, Sir Richard Douglas Powell, and many well-known medical men.

On the same evening the festival dinner of the College was held under the chairmanship of the President, the company including many eminent representatives of the learned professions and official life. Amongst those present were the Master of the Rolls, Mr. Justice Phillimore, Sir Herbert Maxwell, Sir Richard Douglas Powell, Sir Schomberg McDonnell, Sir William S. Church (President of the Royal Society of Medicine), Sir Frederick Treves, Inspector-General James Porter, R.N., Sir W. J. Collins, Colonel Lockwood, M.P., Professor G. Sims Woodhead, Surgeon-General Sir Alfred Keogh, Sir W. H. M. Christie (Astronomer Royal), Sir J. Crichton-Browne, Sir T. Clifford Allbutt, Sir James Reid, Principal H. A. Miers, Sir Robert Morant, Alderman Sir T. Crosby, Mr. Montague Lush, K.C., and Sir George Frampton, R.A.

The PRESIDENT, in proposing the loyal toasts, said that His Majesty the King, "their most illustrious Fellow," honoured the College with his presence under Sir James Paget's presidency in 1877, and proceeded to recall other Royal visits in brief but appropriate terms. "The Memory of John Hunter" was then drunk in silence, and this memorial act was followed by the toast of "The Visitors," proposed by Sir W. WATSON CHEYNE with much cheery humour.

Sir HERBERT COZENS-HARDY (Master of the Rolls) and Colonel LOCKWOOD, M.P., replied, the latter drawing a witty comparison between the delivery of a political oration for party purposes and the delivery of a clinical lecture.

Sir J. CRICHTON-BROWNE proposed in eloquent language "The President and Orator," alluding especially to Mr. Morris's work in cancer research.

In replying, Mr. MORRIS paid a tribute to Lord Lister's great discovery which had led to the advance of surgery by "leaps and bounds," and concluded by referring to the liberality with which the College was enriching yearly its library and Hunterian Museum.

# Looking Back.

FROM

## THE LANCET, *SATURDAY*, Feb. 19th, 1831.

It has been known only of late years that rheumatism is connected with disease of the heart. As far as I am aware, Dr. Pitcairn, of St. Bartholomew's Hospital, first pointed out the circumstance. He was a very timid man, though a very sound physician—highly educated and informed, and never could be induced, I believe, to publish on any subject, being unwilling, probably, to have his opinions criticised and himself laughed at and censured, as all persons must make up their minds to be who render themselves public characters. But though it was not published by himself, he mentioned it to his friends, and a very early notice was given of it by Dr. Baillie in his Morbid Anatomy. Sir David Dundas, of Richmond, wrote a paper on the subject in the *Medico-Chirurgical Transactions;* and, what is very extraordinary, never made the slightest allusion to what had been written by Dr. Baillie and first pointed out by Dr. Pitcairn. Dr. Wells, of St. Thomas's Hospital, who, though considered a little proud and cross, was one of the most acute men that ever lived (and his integrity, independence of spirit, and honour, were equal to his acuteness), remarks in a paper in the *Transactions* of a society for the improvement of medical and surgical knowledge, and in which he has given a great number of cases of this description, that it is extremely difficult to suppose Sir David Dundas could have been ignorant of what had been written on the subject in so popular a book as Dr. Baillie's Morbid Anatomy. Sir David wrote with all the air of novelty, and his paper was printed by the Council of the Medico-Chirurgical Society, though he had not the slightest pretence to originality.

At that time it was said merely that rheumatism was frequently followed by disease of the heart. I believe the truth is, that rheumatism is frequently followed by, or joined, or accompanied from the first, by pericarditis. As far as I have been able to observe, it is pericarditis which is first induced in most diseases of the heart. Pericarditis being induced, and the pericarditis continuing, all other diseases of the heart follow. If you will look into the cases of diseases of the heart, which have been produced by, or rather have followed, rheumatism, you will find I think, in almost every one, that there have been marks of inflammation of the pericardium. They have all seemed to begin in this way; and where there has been no dissection, the history of the cases has shown that the first symptoms were those of pericarditis. And certainly, as to my own experience, all the diseases of the heart which I have been able to see as the consequences of rheumatism, have been decidedly pericarditis in the first instance. The cases that I see at the very first are all pericarditis. I believe it is an inflammatory state of the pericardium which is induced; and when that is inflamed (just as is the course with inflammation in any other part), every kind of organic disease will follow.[1]

## VITAL STATISTICS.

### HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8163 births and 5518 deaths were registered during the week ending Feb. 13th. The annual rate of mortality in these towns, which had been equal to 15·7, 18·0, and 18·7 per 1000 in the three preceding weeks, declined again to 17·5 in the week under notice. During the first six weeks of the current quarter the annual death-rate in these towns averaged 17·3 per 1000, and in London the mean rate during the same period was equal to 17·6. The lowest recorded annual death-rates in these towns during the week were 8·2 in Reading, 10·5 in Burton-on-Trent, 10·9 in Hornsey, and 11·1 in Walthamstow and in Gateshead; the rates in the other towns ranged upwards, however, to 22·3 in Middlesbrough, 22·8 in Blackburn, 25·0 in Wallasey, and 25·5 in Oldham. In London the recorded death-rate during the week was equal to 17·8 per 1000. The 5518 deaths from all causes in the 76 towns last week showed a decline of 375 from the high number in the previous week, and included 453 which were referred to the principal epidemic diseases, against 483 and 494 in the two preceding weeks; of these 453 deaths, 188 resulted from measles, 79 from diphtheria, 68 from whooping-cough, 49 from diarrhœa, 44 from scarlet fever, 24 from "fever" (principally enteric), and one from small-pox. The deaths referred to these epidemic diseases, in the week under notice, were equal to an annual rate of 1·4 per 1000, against 1·5 and 1·6 in the two preceding weeks; in London the recorded rate from these diseases was also equal to 1·4 per 1000. No death from any of these epidemic diseases was registered during last week in Southampton, South Shields, Swansea, Huddersfield, Reading, or in five other smaller towns; the annual death-rate therefrom, however, ranged upwards in the other towns to 3·6 in West Ham, 3·7 in Handsworth, 3·9 in West Hartlepool, and 4·4 in St. Helens. The fatal cases of measles in the 76 towns, which had been 217 and 190 in the two previous weeks, further declined to 188 in the week under notice, but caused annual death-rates equal to 1·8 in West Ham, 2·3 in Warrington, 2·3 in Birmingham, and 3·3 in West Hartlepool. The deaths from diphtheria, which had increased in the five preceding weeks from 62 to 80, was 79 last week, and included 20 in London and its suburban districts, seven in Manchester and Salford, five each in Liverpool, Birmingham, and Leeds, four in Portsmouth and in Bradford, and three both in St. Helens and Handsworth. The fatal cases of whooping-cough, which had been 94 and 114 in the two previous weeks, declined last week to 68; the highest rates from this disease were 1·1 in St. Helens, 1·3 in Preston, and 2·0 in Great Yarmouth. The 49 deaths attributed to diarrhœa somewhat exceeded the numbers in recent weeks. The 44 deaths from scarlet fever also showed a slight further increase; the highest death-rates last week from this disease were 1·5 in Wallasey, 1·7 in Birkenhead, and 1·8 in Bury, and seven fatal cases were registered in Liverpool and Bootle, and four in

[1] Excerpt from a Clinical Lecture on Pericarditis delivered by Dr. Elliotson on January 31st, 1831, at St. Thomas's Hospital.

Birmingham and King's Norton. The 24 deaths referred to "fever" were fewer than in any previous week of this year, but included four in Manchester and Salford, and two in Leeds. The fatal case of small-pox occurred in Bristol. The number of scarlet fever patients under treatment in the Metropolitan Asylums and the London Fever Hospitals, which had declined in the six preceding weeks from 3557 to 3117, had further decreased to 3002 at the end of the week under notice; the new cases of this disease admitted to these hospitals during last week were 289, against 379, 339, and 312 in the three preceding weeks. The registered deaths in London referred to pneumonia and other diseases of the respiratory organs, which had been 317, 377, and 556 in the three preceding weeks, declined again to 441 in the week under notice, but exceeded by 47 the corrected average number in the corresponding week of the five years 1904–08. The causes of 52, or 0·9 per cent., of the deaths registered in the 76 towns during the week were not certified, either by a registered medical practitioner or by a coroner. All the causes of death registered during the week under notice were again duly certified in Leeds, Bristol, West Ham, Bradford, Hull, Leicester, and in 48 other smaller towns; the 52 uncertified causes of death in the 76 towns last week included, however, 14 in Liverpool, eight in Birmingham, and three in Manchester.

### HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been equal to 17·2 and 18·5 per 1000 in the two preceding weeks, declined again to 18·2 in the week ending Feb. 13th. During the first six weeks of the current quarter the annual death-rate in these eight towns averaged 18·4 per 1000, and exceeded by 1·1 the mean rate during the same period in the 76 large English towns. Among the eight Scotch towns the death-rate during the week under notice ranged from 13·2 and 14·8 in Perth and Edinburgh to 21·6 in Paisley and 22·5 in Dundee. The 652 deaths from all causes registered in the eight towns last week showed a decline of ten from the number in the previous week, and included 73 which were referred to the principal epidemic diseases, against 57, 71, and 77 in the three preceding weeks; of these 73 deaths, 49 resulted from whooping-cough, nine from diarrhœa, seven from diphtheria, five from scarlet fever, and three from "fever," but not one either from measles or small-pox. These 73 deaths were equal to an annual rate of 2·0 per 1000, exceeding by 0·6 the mean rate during the week from the same diseases in the 76 English towns. The fatal cases of whooping-cough in the eight Scotch towns, which had been 34 and 42 in the two preceding weeks, further rose to 49 in the week under notice, and included 30 in Glasgow, eight in Aberdeen, three in Dundee and in Paisley, and two in Edinburgh and in Leith. The nine deaths attributed to diarrhœa showed a further decline from recent weekly numbers; three occurred in Aberdeen and two in Glasgow and in Edinburgh. The seven fatal cases of diphtheria also showed a decline, but included four in Glasgow and two in Dundee. The five deaths from scarlet fever slightly exceeded the numbers in recent weeks, including two both in Glasgow and Dundee. The three deaths referred to "fever" were all recorded in Glasgow; two were certified as enteric and one as cerebro-spinal fever. The deaths referred to diseases of the respiratory organs in the eight towns, which had been 111 and 131 in the two preceding weeks, further rose to 137 in the week under notice, but were 39 below the number returned in these towns in the corresponding week of last year. The causes of 28, or 4·3 per cent., of the deaths registered in the eight towns last week were not certified; in the 76 large English towns the proportion of uncertified causes of death last week did not exceed 0·9 per cent.

### HEALTH OF DUBLIN.

The annual rate of mortality in Dublin, which had been equal to 25·4 and 24·3 per 1000 in the two preceding weeks, rose again to 25·1 in the week ending Feb. 13th. During the first six weeks of the current quarter the death-rate in the city averaged 24·6 per 1000, whereas the mean rate during the same period did not exceed 17·7 in London and 17·5 in Edinburgh. The 192 deaths of Dublin residents from all causes during the week under notice showed an increase of six upon the number in the previous week, and included 13 which were referred to the principal epidemic diseases, against 13 and 11 in the two preceding weeks. These 13 deaths were equal to an annual rate of 1·7 per 1000; the rate from these epidemic diseases in the same week did not exceed 1·4 in London and 0·7 in Edinburgh. Of the 13 deaths from these epidemic diseases in Dublin last week five resulted from whooping-cough, four from "fever," two from diarrhœa, and one each from measles and scarlet fever, but not one either from diphtheria or small-pox. The five fatal cases of whooping-cough and the four of "fever" showed a considerable increase upon recent weekly numbers, while only one death from measles was registered, against an average of eight in the five preceding weeks. The 192 deaths registered during the week included 46 of infants under one year of age and 46 of persons aged upwards of 60 years; the deaths of infants showed an increase, while those of elderly persons had declined. Four inquest cases and four deaths from violence were registered last week; and 73, or 38·0 per cent., of the deaths occurred in public institutions. The causes of five, or 2·6 per cent., of the deaths registered in Dublin last week were not certified; in London the causes of all but three of the 1646 deaths were duly certified, while in Edinburgh 5·0 per cent. of the causes of death were not certified.

### VITAL STATISTICS OF LONDON DURING JANUARY, 1909.

In the accompanying table will be found summarised complete statistics relating to sickness and mortality in the City of London and in each of the metropolitan boroughs. With regard to the notified cases of infectious diseases, it appears that the number of persons reported to be suffering from one or other of the nine diseases specified in the table was equal to an annual rate of 7·2 per 1000 of the population, estimated at 4,833,938 persons in the middle of the year; in the three preceding months the rates were 9·2, 9·2, and 7·6 per 1000 respectively. The lowest rates last month were recorded in Kensington, Hampstead, Holborn, the City of London, and Southwark; and the highest rates in Shoreditch, Deptford, Greenwich, Lewisham, and Woolwich. Scarlet fever was again less prevalent than in other recent months; the greatest proportional prevalence of this disease last month was recorded in Poplar, Battersea, Wandsworth, Deptford, Greenwich, Lewisham, and Woolwich. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals, which had been 3776, 3787, and 3498 at the end of the three preceding months, had further declined to 3147 at the end of last month; the weekly admissions averaged 343, against 493, 477, and 371 in the three preceding months. The prevalence of diphtheria showed a slight decline from that recorded in the previous month; among the several metropolitan boroughs this disease was proportionally most prevalent in Shoreditch, Stepney, Bermondsey, Camberwell, Lewisham, and Woolwich. The Metropolitan Asylums Hospitals contained 1182 diphtheria patients at the end of last month, against 1118, 1228, and 953 at the end of the three preceding months; the weekly admissions averaged 136, against 158, 158, and 143 in the three preceding months. Enteric fever was rather less prevalent than in other recent months; the greatest proportional prevalence of this disease last month was recorded in Hackney, Shoreditch, Poplar, Bermondsey, and Deptford. There were 126 enteric fever patients under treatment in the Metropolitan Asylums Hospitals at the end of last month, against 145, 184, and 147 at the end of the three preceding months; the weekly admissions averaged 18, against 24, 29, and 16 in the three preceding months. Erysipelas was proportionally most prevalent in St. Marylebone, Bethnal Green, Stepney, Camberwell, Deptford, and Greenwich. The 29 cases of puerperal fever notified during the month included four which belonged to Fulham and three each to St. Pancras, Hackney, Shoreditch, Lambeth, and Camberwell. Of the three cases notified as cerebro-spinal meningitis one belonged to Bethnal Green, one to Poplar, and one to Lambeth.

The mortality statistics in the table relate to the deaths of persons actually belonging to the various boroughs, the deaths occurring in institutions having been distributed among the boroughs in which the deceased persons had previously

## ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING JANUARY, 1909.

*(Specially compiled for* THE LANCET.)

| CITIES AND BOROUGHS. | Estimated population in the middle of 1909. | NOTIFIED CASES OF INFECTIOUS DISEASE. | | | | | | | | | DEATHS FROM PRINCIPAL INFECTIOUS DISEASES. | | | | | | | | | Deaths from all causes. | Death-rate per 1000 living. | Deaths of Infants under one year to 1000 births. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Small-pox. | Scarlet fever. | Diphtheria.* | Typhus fever. | Enteric fever. | Other continued fevers. | Puerperal fever. | Erysipelas. | Cerebro-spinal meningitis. | Total. | Annual rate per 1000 persons living. | Small-pox. | Measles. | Scarlet fever. | Diphtheria.* | Whooping-cough. | Typhus fever. | Enteric fever. | Other continued fevers | Diarrhœa. | Total. | Annual rate per 1000 persons living. | | |
| LONDON ... ... ... ... ... | 4,833,988 | — | 1472 | 642 | — | 141 | — | 29 | 351 | 3 | 2668 | 7·2 | — | 308 | 33 | 70 | 62 | — | 24 | — | 63 | 560 | 1·5 | 6097 | 16·4 | 106 |
| *West Districts.* | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Paddington ... ... ... ... | 151,955 | — | 42 | 13 | — | 2 | — | — | 9 | — | 66 | 5·7 | — | 3 | — | — | 4 | — | — | — | 2 | 9 | 0·8 | 169 | 14·5 | 108 |
| Kensington ... ... ... ... | 183,683 | — | 31 | 17 | — | 6 | — | — | 17 | — | 71 | 5·0 | — | 4 | 1 | 1 | 1 | — | 4 | — | — | 11 | 0·8 | 243 | 17·2 | 106 |
| Hammersmith ... ... ... ... | 125,704 | — | 24 | 20 | — | 1 | — | 2 | 8 | — | 55 | 5·7 | — | 3 | 2 | 4 | 2 | — | 1 | — | 1 | 13 | 1·3 | 150 | 15·6 | 105 |
| Fulham ... ... ... ... ... | 176,406 | — | 38 | 25 | — | 3 | — | 4 | 6 | — | 76 | 5·7 | — | 4 | — | 5 | 8 | — | — | — | 3 | 20 | 1·5 | 189 | 14·2 | 87 |
| Chelsea ... ... ... ... ... | 75,249 | — | 23 | 7 | — | — | — | — | 6 | — | 36 | 6·2 | — | 4 | — | 1 | — | — | — | — | 2 | 7 | 1·2 | 98 | 17·0 | 146 |
| City of Westminster ... ... ... | 168,883 | — | 32 | 20 | — | 5 | — | — | 15 | — | 72 | 5·6 | — | 4 | 1 | 1 | 3 | — | — | — | 1 | 10 | 0·8 | 176 | 13·6 | 98 |
| *North Districts.* | | | | | | | | | | | | | | | | | | | | | | | | | | |
| St. Marylebone ... ... ... ... | 126,027 | — | 22 | 6 | — | 3 | — | 1 | 24 | — | 56 | 5·8 | — | 7 | 1 | — | 1 | — | 1 | — | 1 | 10 | 1·0 | 160 | 16·5 | 56 |
| Hampstead ... ... ... ... | 94,185 | — | 24 | 5 | — | 2 | — | — | 3 | — | 34 | 4·7 | — | 1 | — | — | 3 | — | 1 | — | 1 | 6 | 0·8 | 85 | 11·8 | 87 |
| St. Pancras ... ... ... ... | 237,422 | — | 53 | 23 | — | 4 | — | 3 | 14 | — | 97 | 5·3 | — | 14 | 3 | 2 | 2 | — | — | — | 1 | 22 | 1·2 | 347 | 19·1 | 114 |
| Islington ... ... ... ... ... | 351,202 | — | 110 | 51 | — | 11 | — | 1 | 24 | — | 197 | 7·3 | — | 16 | 4 | 5 | 4 | — | — | — | 1 | 30 | 1·1 | 433 | 16·1 | 97 |
| Stoke Newington ... ... ... | 54,423 | — | 17 | 2 | — | 3 | — | — | 2 | — | 24 | 5·7 | — | — | — | — | 1 | — | — | — | 1 | 2 | 0·5 | 57 | 13·7 | 79 |
| Hackney ... ... ... ... ... | 237,801 | — | 76 | 36 | — | 11 | — | 3 | 13 | — | 139 | 7·6 | — | 13 | 2 | 2 | 3 | — | 1 | — | 5 | 26 | 1·4 | 286 | 15·7 | 121 |
| *Central Districts.* | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Holborn ... ... ... ... ... | 53,602 | — | 7 | 2 | — | 1 | — | — | 3 | — | 13 | 3·1 | — | 1 | 1 | — | 2 | — | — | — | — | 4 | 1·0 | 63 | 15·3 | 26 |
| Finsbury ... ... ... ... ... | 96,289 | — | 19 | 13 | — | 2 | — | — | 9 | — | 43 | 5·9 | — | 11 | 2 | 2 | 3 | — | — | — | 2 | 20 | 2·7 | 161 | 22·0 | 131 |
| City of London ... ... ... | 18,193 | — | 4 | — | — | 1 | — | — | — | — | 5 | 3·6 | — | — | — | — | — | — | — | — | — | — | — | 32 | 22·9 | 111 |
| *East Districts.* | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Shoreditch ... ... ... ... | 114,802 | — | 41 | 25 | — | 17 | — | 3 | 14 | — | 100 | 11·4 | — | 3 | 1 | 1 | 3 | — | 4 | — | 2 | 14 | 1·6 | 188 | 21·3 | 125 |
| Bethnal Green ... ... ... | 131,316 | — | 35 | 19 | — | 3 | — | — | 16 | 1 | 74 | 7·3 | — | 25 | 2 | 4 | — | — | 1 | — | 3 | 35 | 3·5 | 230 | 22·8 | 148 |
| Stepney ... ... ... ... ... | 312,525 | — | 92 | 51 | — | 9 | — | 2 | 36 | — | 190 | 7·9 | — | 43 | 1 | 7 | 1 | — | 1 | — | 9 | 62 | 2·6 | 446 | 18·6 | 139 |
| Poplar ... ... ... ... ... | 171,965 | — | 72 | 16 | — | 12 | — | 1 | 10 | 1 | 112 | 8·5 | — | 11 | 1 | 4 | 1 | — | 6 | — | 5 | 28 | 2·1 | 255 | 19·3 | 103 |
| *South Districts.* | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Southwark ... ... ... ... | 211,125 | — | 41 | 10 | — | 7 | — | — | 15 | — | 73 | 4·5 | — | 33 | 1 | 5 | 3 | — | 1 | — | 6 | 49 | 3·0 | 324 | 20·0 | 113 |
| Bermondsey ... ... ... ... | 127,569 | — | 41 | 21 | — | 8 | — | — | 12 | — | 82 | 8·4 | — | 27 | 1 | 1 | 2 | — | — | — | 2 | 33 | 3·4 | 217 | 22·2 | 136 |
| Lambeth ... ... ... ... ... | 324,188 | — | 98 | 35 | — | 4 | — | 3 | 19 | 1 | 160 | 6·4 | — | 14 | — | 3 | 3 | — | — | — | 5 | 25 | 1·0 | 394 | 15·8 | 111 |
| Battersea... ... ... ... ... | 186,036 | — | 80 | 23 | — | 2 | — | 2 | 16 | — | 123 | 8·6 | — | 17 | 1 | 1 | 6 | — | — | — | 3 | 28 | 2·0 | 229 | 16·0 | 101 |
| Wandsworth ... ... ... ... | 297,646 | — | 116 | 32 | — | 6 | — | — | 17 | — | 171 | 7·5 | — | 7 | 1 | 4 | 5 | — | — | — | 2 | 19 | 0·8 | 281 | 12·3 | 86 |
| Camberwell ... ... ... ... | 283,022 | — | 85 | 46 | — | 6 | — | 3 | 27 | — | 167 | 7·7 | — | 14 | — | 8 | 1 | — | 3 | — | 3 | 29 | 1·3 | 345 | 15·9 | 86 |
| Deptford ... ... ... ... ... | 118,583 | — | 59 | 19 | — | 5 | — | 1 | 13 | — | 97 | 10·7 | — | 19 | 2 | 2 | — | — | — | — | — | 23 | 2·5 | 153 | 16·8 | 88 |
| Greenwich ... ... ... ... | 111,014 | — | 56 | 17 | — | 2 | — | — | 14 | — | 89 | 10·5 | — | 8 | 1 | — | — | — | — | — | 1 | 10 | 1·2 | 121 | 14·2 | 102 |
| Lewisham ... ... ... ... | 160,749 | — | 73 | 54 | — | 2 | — | — | 10 | — | 139 | 11·3 | — | — | 2 | 2 | — | — | 1 | — | 1 | 6 | 0·5 | 141 | 11·4 | 85 |
| Woolwich... ... ... ... ... | 133,374 | — | 61 | 34 | — | 2 | — | — | 9 | — | 106 | 10·4 | — | 2 | 2 | 5 | — | — | — | — | — | 9 | 0·9 | 124 | 12·1 | 95 |
| Port of London ... ... ... | — | — | — | — | — | 1 | — | — | — | — | 1 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

* Including membranous croup.

resided. During the four weeks ending Jan. 30th the deaths of 6097 persons belonging to London were registered, equal to an annual rate of 16·4 per 1000; in the three preceding months the rates had been 12·3, 14·6, and 14·3 per 1000. Among the several boroughs the death-rates last month ranged from 11·4 in Lewisham, 11·8 in Hampstead, 12·1 in Woolwich, 12·3 in Wandsworth, 13·6 in Westminster, and 13·7 in Stoke Newington, to 20·0 in Southwark, 21·3 in Shoreditch, 22·0 in Finsbury, 22·2 in Bermondsey, 22·8 in Bethnal Green, and 22·9 in the City of London. The 6097 deaths from all causes included 560 which were referred to the principal infectious diseases; of these, 308 resulted from measles, 33 from scarlet fever, 70 from diphtheria, 62 from whooping-cough, 24 from enteric fever, and 63 from diarrhœa, but not any from small-pox, from typhus fever, or from ill-defined pyrexia. No death from any of these diseases was recorded last month in the City of London; among the metropolitan boroughs they caused the lowest death-rates in Paddington, Kensington, Westminster, Hampstead, Stoke Newington, Wandsworth, and Lewisham and the highest rates in Finsbury, Bethnal Green, Stepney, Southwark, Bermondsey, and Deptford. The 308 fatal cases of measles were more than double the corrected average number for the corresponding period of the five preceding years; the greatest proportional mortality from this disease last month was recorded in Finsbury, Bethnal Green, Stepney, Southwark, Bermondsey, Battersea, and Deptford. The 33 deaths from scarlet fever were 16 below the corrected average number; this disease was proportionally most fatal in Hammersmith, St. Pancras, Finsbury, Bethnal Green, Deptford, Lewisham, and Woolwich. The 70 fatal cases of diphtheria were equal to the corrected average; among the various metropolitan boroughs the highest death-rates from this disease were recorded in Hammersmith, Fulham, Bethnal Green, Poplar, Southwark, Camberwell, and Woolwich. The 62 deaths from whooping-cough were only one-half the average number in the corresponding period of the five preceding years; the greatest proportional mortality from this disease was recorded in Paddington, Fulham, Hampstead, Holborn, Finsbury, Shoreditch, and Battersea. The 24 fatal cases of enteric fever slightly exceeded the corrected average number; of these 24 deaths, six belonged to Poplar, four to Kensington, four to Shoreditch, three to Camberwell, and one to each of seven other boroughs. The 63 deaths from diarrhœa showed an excess of three over the corrected average; the greatest proportional mortality from this cause was recorded in Chelsea, Bethnal Green, Stepney, Poplar, and Southwark. In conclusion it may be stated that the aggregate mortality in London last month from these principal infectious diseases was 19·5 per cent. above the average.

Infant mortality, measured by the proportion of deaths among children under one year of age to registered births, was equal to 106 per 1000. The lowest rates of infant mortality were recorded in St. Marylebone, Stoke Newington, Holborn, Wandsworth, Camberwell, and Lewisham; and the highest rates in Chelsea, Hackney, Finsbury, Shoreditch, Bethnal Green, Stepney, and Bermondsey.

## THE SERVICES.

### ROYAL NAVY MEDICAL SERVICE.

Vice-Admiral Sir John Durnford has been appointed chairman of a committee to inquire into the Naval Medical Service.

The following promotions have been made:—Deputy Inspector-General of Hospitals and Fleets Leonard Henry Kellett to be Inspector-General of Hospitals and Fleets in His Majesty's Fleet; and Fleet Surgeon William Maxwell Craig to be Deputy Inspector-General of Hospitals and Fleets in His Majesty's Fleet (dated Jan. 17th, 1909).

The undermentioned Surgeons have been promoted to the rank of Staff-Surgeon in His Majesty's Fleet (dated Feb. 11th, 1909):—Edmund Cox, John Macdonald, Arthur La Touche Darley, August Joseph Wernet, Charles Edward Cortis Stanford, Arthur Richard Thomas, Douglas Victor Lowndes, George Charles Cumberland Ross, Percy Francis Alderson, and Henry Constantine Woodyatt.

The following appointments are notified:—Fleet-Surgeon: E. Cooper to the *Bellerophon*, on commissioning. Staff-Surgeons: G. E. Duncan to the *Prince George;* A. G. Eastment to Plymouth Hospital, for instruction of sick berth staff; J. N. Robertson to H.M. Dockyard, Chatham; F. C. B. Gittings to the *Foresight;* and D. V. Lowndes to the *Victory*, additional, for disposal. Surgeons: W. H. Edgar to the *Bellerophon*, on commissioning; C. R. M. Baker to the *King Alfred*, additional (appointment to *Sandpiper* cancelled); R. L. Jones to the *Shannon;* J. S. Austin to the *Natal;* and M. W. Haydon to R.M. Artillery, Eastney. Civil Practitioner: J. M. Ross to be Surgeon and Agent at Butt of Lewis.

### ROYAL ARMY MEDICAL CORPS.

Captain P. Power has been appointed to the Irish Command for duty and posted to the Belfast District. Captain R. S. H. Fuhr, D.S.O., and Captain J. E. Hodgson, from the Royal Army Medical College, have been appointed for duty in the London District.

Major Robert J. A. Durant is placed on retired pay (dated Feb. 2nd, 1909).

The undermentioned Lieutenants to be Captains (dated Jan. 31st, 1909):—John A. Anderson, Cuthbert G. Browne, Hugh G. Sherren, Henry H. A. Emerson, Rowland P. Lewis, James H. Graham, Wallace Benson, George E. Ferguson, Charles E. W. S. Fawcett, Alexander M. Rose, Griffith H. Rees, Thomas Scatchard, Vivian H. Symons, Edward G. Anthonisz, Ronald A. Bryden, Edward L. Moss, Arthur E. S. Irvine, Thomas B. Moriarty, Michael B. H. Ritchie, Walter J. Weston, Percy Farrant, Albert E. F. Hastings, Mortimer J. Cromie, Edmund T. Potts, George W. W. Ware, William McConaghy, Wilfrid C. Nimmo, Cecil J. Wyatt, Michael Keane, Charles F. White, Francis C. Sampson, Thomas S. Blackwell, Robertson S. Smyth, Harold E. Priestley, Philip J. Marett, and Hugh Stewart.

The undermentioned Lieutenants are confirmed in that rank:—Ronald E. Todd, Charlie Ryles, David S. Buist, William E. Marshall, Alexander M. Pollard, Colin Clarke, Edmund V. Vaughan, Arthur N. R. McNeill, Andrew R. Wright, Thomas B. Nicholls, Julian B. Jones, Stuart McK. Saunders, Thomas J. Mitchell, Frank H. Somers-Gardner, Donald H. C. McArthur, Denis E. C. Pottinger, George S. Parkinson, Herbert Gall, Charles H. O'Rorke, Austin W. Byrne, John Startin, Charles G. Sherlock, George H. Stack, Samuel W. Kyle, Harold Bevis, and John W. Lane.

### TERRITORIAL FORCE.

*Royal Engineers.*

2nd London Divisional Engineers: Major William Henry Bourke, from the Royal Army Medical Corps, Territorial Force, to be Surgeon-Major, with seniority as from Oct. 8th, 1906.

*Royal Army Medical Corps.*

*For attachment to Units other than Medical Units.*—Edward Norman Threlfall to be Lieutenant (dated Jan. 1st, 1909).

*Unattached List for the Territorial Force.*—The promotion of Lieutenant Herbert Hugh Blair Cunningham bears date Sept. 21st, 1908, and not Nov. 30th, 1908, as stated in the *London Gazette* of Jan. 8th, 1909.

### AUXILIARY FORCES.

*Imperial Yeomanry.*

2nd County of London (Westminster Dragoons): The under mentioned officer, not having signified his wish to serve in the Territorial Force, is struck off the strength of the regiment (dated March 31st, 1908):—Surgeon-Lieutenant Frederick A. F. Barnardo.

THE HANDEL COSSHAM MEMORIAL HOSPITAL, KINGSWOOD.—Owing to the expenses incurred in the management of the Handel Cossham Memorial Hospital, Kingswood, near Bristol, the committee has decided temporarily to close two of the medical wards and to reduce the nursing staff. When the institution was opened in June, 1907, it was stated that £30,000 had been expended on the building and its equipment, and the endowment fund was estimated at about £70,000.

# Correspondence.

"Audi alteram partem."

## THE SECTION OF ANÆSTHETICS OF THE ROYAL SOCIETY OF MEDICINE AND THE PROPOSED GENERAL ANÆSTHETICS BILL.

*To the Editor of* THE LANCET.

SIR,—As far as I am concerned, Dr. Hewitt is quite welcome to his pyrrhic victory, for I have no reason to feel dissatisfied with the general results of the discussion which his proposed measure has provoked.

It has become abundantly evident, for instance, that the people most affected by the Bill were the future holders of the L.D.S. alone; these Dr. Hewitt proposed to treat as practitioners unqualified to administer even nitrous oxide gas. In the course of the discussions at the Section of Anæsthetics it was very clearly pointed out that such disqualification of the L.D.S. was of more than doubtful advantage to the public, and was somewhat unjust to the dentists, who ought at any rate to be consulted in the matter. I am pleased to say that these views prevailed. At the meeting of the section on Jan. 20th Dr. Dudley Buxton proposed and carried a resolution to the effect that—

> This Act shall not apply to any person registered under the Dentists Act, 1878, who shall administer nitrous oxide gas with the object of producing a state of unconsciousness during any dental operation, act, or procedure.

At the adjourned meeting on Feb. 5th Dr. Llewelyn Powell proposed and carried the necessary corollary to this, viz.:—

> That all candidates for a dental qualification ....., shall have received instruction in the administration of nitrous oxide, &c.

It is true that at the adjourned meeting on Feb. 5th the Bill was accepted by the section, but only subject to the above amendments. In the opinion of many of us it is precisely these amendments which have altered the whole character of the measure, for up to the present no facts or figures have been forthcoming to endorse the view that, apart from dentistry, "unqualified administration" is rampant or is responsible for the "anæsthetic death-rate" to an extent that would justify special legislation. In Dr. Hewitt's view the educational clause is not "essential," but in spite of this expression of opinion the section, by suggesting the extension of the scope of this clause, emphatically endorsed the contrary view held by the Privy Council.

The discussion at the meeting of Feb. 5th was wound up by the adoption (by a large majority) of the following resolution, viz.:—

> That the council of the Royal Society of Medicine be informed that the Section of Anæsthetics approves of legislation to restrict the administration of anæsthetics to legally qualified practitioners.

It is, I think, very significant of the feeling of the meeting that while expressing a pious opinion in favour of legislation the resolution is very careful to abstain from any expression of opinion in favour of the proposed measure, and the omission of any reference to dentists administering nitrous oxide was at the time expressly stated to be due to a desire to leave the solution of that point in the hands of the dentists themselves. The decision of the dentists can hardly be doubtful, but in view of what passed at the meeting I wonder what use the council of the Royal Society of Medicine can, or will, make of the information afforded it.

I am, Sir, yours faithfully,

J. FREDK. W. SILK.

Devonshire-street, Portland-place, W., Feb. 13th, 1909.

*To the Editor of* THE LANCET.

SIR,—In commenting upon the letters which appeared in THE LANCET of Feb. 6th, p. 422, from Dr. Dudley W. Buxton and Dr. J. F. W. Silk with regard to the advisability of legally empowering dentists to administer nitrous oxide gas I venture to point out—

1. That this Bill, which proposes that general anæsthetics should be exclusively administered by registered medical practitioners excepting only dentists who have been registered before the passing of the Act, would prevent unregistered dentists from procuring a general anæsthetic for their patients in any circumstances; for, being laymen, they could not themselves administer drugs causing a state of unconsciousness, nor could a registered medical practitioner administer for them to operate without unlawful covering under the Medical Acts. The effect of this Bill would therefore be a step towards the protection of the registered dentist.

2. The Bill would prevent the indefensible practice of certain dentists in acting singlehanded both as operator and administrator of the anæsthetic. Dr. F. Hewitt has placed in my hands the results of a careful search through the records in the dental journals from the year 1888 to June, 1908, inclusive, of deaths under general anæsthetics administered for dental operations by men having no medical qualifications. *There were 13 such deaths, and of these deaths 11 occurred whilst the dental operator was also acting as administrator of the anæsthetic.* In the twelfth case two unqualified dentists were at work, and in the thirteenth case "a local dentist" apparently singlehanded, but the record does not make a definite statement. This fact is such irrefutable evidence of the perilous position of patients when subjected to this unwarrantable procedure that the dental staff surgeons of the hospitals of the United Kingdom have only to be apprised of it to discountenance the practice altogether.

3. If registered dentists were to be legally empowered to give nitrous oxide gas (under which anæsthetic there have been a not inconsiderable number of fatalities) the man who is in practice alone would either act in this dangerous dual capacity of operator and administrator of the anæsthetic or in many cases be assisted by a totally unqualified mechanic or servant. Thus a man whose medical knowledge of the subtle differences between the symptoms of syncope and asphyxia is necessarily limited would be "covering" a totally ignorant person as administrator of the anæsthetic.

4. Since the introduction of nitrous oxide gas into this country at the Dental Hospital of London the dental staff have abstained from either administering general anæsthetics themselves or obtaining official teaching of the subject for their dental students. It is not to be supposed that this attitude has been adopted consistently for 40 years by the leading surgeons and lecturers in their profession without a definite policy.

I am, Sir, yours faithfully,

Harley-street, W., Feb. 15th, 1909. H. BELLAMY GARDNER.

*To the Editor of* THE LANCET.

SIR,—The account in THE LANCET of Feb. 13th, p. 465, of the adjourned meeting of the Section of Anæsthetics on Feb. 5th, does not I think give a correct impression. Nor does it offer any explanation for the obvious contradiction conveyed in the two votes recorded that evening. You will perhaps allow me to point out that the resolution which you mention first and in small print was passed second and by a larger majority than that which it over-ruled and to which you appear to me to give the greater prominence. This latter came to be passed at all only, I believe, because the original motion was so put that no one could show in voting his approval of the proposed Bill unless he also showed approval of an amended clause whether he approved of the latter or not. The second resolution gave him an opportunity of reversing this undesired effect. Thanking you in anticipation,

I am, Sir, yours faithfully,

Cavendish-place, W., Feb. 15th, 1909. J. BLUMFELD.

*To the Editor of* THE LANCET.

SIR,—Your report in THE LANCET of Feb. 13th as to the meeting on Feb. 5th is misleading in its last paragraph. This reads as though the section then would not oppose the administration of the anæsthetic, nitrous oxide, by dentists, provided the Odontological Society approved, whereas no such decision was arrived at.—I am, Sir, yours faithfully,

Birmingham, Feb. 16th, 1909. W. J. MCCARDIE.

*** We indicated last week that our brief note on the proceedings of the section at the meeting on Feb. 5th would be amplified. The fuller report appears this week.—ED. L.

## PRESERVATIVES IN FOOD: EFFECTS OF BENZOIC ACID.

*To the Editor of* THE LANCET.

SIR,—On many occasions you have favourably reviewed Dr. Wiley's works on the effect of various preservative agents upon health, and in your issue of Feb. 13th, p. 508, your New York Correspondent directs attention to the fact that the board of experts appointed by President Roosevelt have completed their investigations

on the action of benzoic acid and preservatives and have arrived at conclusions diametrically opposed to those of Dr. Wiley. Your correspondent, however, does not point out the obvious cause for the difference in the results obtained. Dr. Wiley administered the daily amount of preservative inclosed in a capsule in a single dose. Commencing with small quantities he gradually increased the amount until some effect was produced and then argued that because these large doses affected the metabolism, &c., the preservative was injurious to health. The committee of experts avoided this very obvious fallacy and gave the preservative in divided doses intimately mixed with some article of food and thus observed none of the untoward effects remarked by Dr. Wiley. It is easy to see how by these different methods of procedure different conclusions would be arrived at. Two drachms of common salt administered in a capsule would undoubtedly produce discomfort and in many instances actual vomiting. The same quantity distributed throughout the food taken during the day would have no such effect. The person adopting the former method would conclude that common salt was distinctly injurious to health, whilst anyone adopting the latter method would arrive at the opposite conclusion. As to which would be right the common sense of your readers can decide.

I am no advocate for the indiscriminate use of antiseptics, but I like to know the truth even if it does not accord with my preconceived opinions, and as there may be many who have not seen the various reports I have ventured to point out how different members of the profession have been led to contradict each other's results.

I am, Sir, yours faithfully,

JOHN C. THRESH.

Public Health Laboratories, London Hospital Medical College, London, E., Feb. 15th, 1909.

## CAPITAL PUNISHMENT IN FRANCE AND ITALY.

*To the Editor of* THE LANCET.

SIR,—I have only just read your leading article in THE LANCET of Jan. 23rd on Capital Punishment in France and Italy, and for this reason I send you rather late a few remarks on it. It seems to me that, admitting the fact that Italy has the "sinister priority in lethal crime," the question remains whether the abolition of capital punishment is the cause of it, or, if not the cause, whether it had an influence on this kind of crime. Capital punishment was abolished in Italy in 1889 and since then the proportion for every 100,000 inhabitants of every kind of homicides is as follows: 1887, 13·4; 1888, 14·4; 1889, 13·3; 1890, 12·0; 1891, 13·0; 1892, 14·4; 1893, 14·1; 1894, 12·7; 1895, 12·4; 1896, 12·3; 1897, 12·7; 1898, 11·8; 1899, 11·2; 1900, 10·8; 1901, 9·8; 1902, 9·8; 1903, 9·4; and 1904, 9·1.

The official statistics of the last three years have not yet appeared. These figures prove that the abolition of capital punishment did certainly not produce an increase of homicides. To say that "an Italian kills an Italian every two hours" is simply disgusting. The number of every kind of homicides in Italy during the last four years quoted above was the following: 1901, 3168; 1902, 3202; 1903, 3106; and 1904, 3011. Certainly all this is awful, but I am not sure that it means that we have "the sinister priority in lethal crime," because of several nations we do not know the statistics, which are not published. At any rate, it is certain that those peoples which have a less lethal crime than we have enjoy since several centuries a condition of freedom that we have only enjoyed since 1860. I feel quite sure that the question of homicides in Italy is a very complex one, and that it mainly depends on the sentiments of our populations, some of which are very ignorant and have inherited from their ancestors a peculiar feeling that it is not only right but a duty to kill a person on the slightest offences to themselves, their wives, or sisters, &c. The existence of capital punishment has not the least influence in diminishing such a feeling; on the contrary, it remains as a fearful example that a man has the right to kill another. We try to fight and stamp out such a feeling by education, by teaching constantly that homicide is always a crime, and the facts prove that we are on the right way. And I can assure you that we have made such progress that in Italy the revolting executions of Bethune would have been impossible, because a general rebellion of all the population would have prevented them. And we are quite surprised and disgusted that in France these things happened under quite opposite feelings. Do not say that we consider France "the leader of Latin Civilisation."

After all this, allow me to tell you that Italy for this subject has nothing to learn from "the practice and experience of the British Isles." We have a good deal to learn from their teachings in sanitation; we have a great admiration for the steady character of the English people, and we try to show as often as we can our unreserved admiration and what we call *simpatia*. But we hope that when England will grasp the great truth that "hanging" does not prevent murder, but that other means acting on morality of the people are necessary, she will follow the example of Italy.

I am, Sir, yours faithfully,

CHARLES RUATA, M.D.

Perugia, Feb. 7th, 1909. Professor at the University.

*** We must remind Professor Ruata that the statement which he qualifies as "disgusting" was made by an Italian statistician, to whom we referred, and not by ourselves; while the suggestion that in England hanging is used instead of education as a preventive of crime is not in accord with facts. Still, all will approve Professor Ruata's motives in sticking up for his country.—ED. L.

## MEDICAL CHARITIES.

*To the Editor of* THE LANCET.

SIR,—Most of us doubtless receive from time to time appeals on behalf of charitable institutions, or for some poor brother or sister who is in distress. And your columns are always open to such appeals when the subject is in any way related to the medical profession and is a deserving one. The treasurers of our various medical charities—the British Medical Benevolent Fund, Epsom College, Society for Relief of Widows and Orphans, and THE LANCET Relief Fund—must have heartrending experience of genuine distress, and they must also, to a greater extent than others, share in this distress from the knowledge that their funds are all too small to allow of efficient alleviation.

A plan to raise subscriptions from our profession has occurred to me; and if it should only be half as successful as is the same plan which is carried out on behalf of the Commercial Travellers' Schools much distress would be alleviated and almoners of our charities would be relieved from great anxiety. My attention was drawn to this project last summer, when, going for a brief holiday, I had to break my journey at a small town and stay the night at an unpretentious, but comfortable, inn. On the morrow, whilst having an early breakfast, a small book was courteously handed to me, which on inspection I found to be a register of table money (varying from 2*d.* to 2*s.* 6*d.*) which was expected from, and was paid by, every commercial traveller who visited the inn. I was told that all hotels and inns which are visited by these genial [knights of the road possess a similar register and that thereby large sums are annually collected in aid of the Commercial Travellers' Schools at Bushey. I did not reveal my "line of business" but paid my modest shilling to the fund. Well, such a plan, with modifications, could be utilised by the medical profession on behalf of our own charities.

We doctors are as much given apparently to attending dinners (public and semi-public) as any other class of men. Probably during the season alone, say from May to July, there are hundreds of medical men who attend purely professional dinners every week in London alone. Why should not the chairman be given by one or other of these aforesaid charities a book which he could pass round at the end of the feast, and I fear not that each diner, in the fulness of his heart and the generous impulses prompted by an ample meal, will subscribe his sixpence or his shilling and pay it to the chairman. We willingly, and to some extent unnecessarily, give these sums to each waiter who whispers in our ear a "hope that you have been satisfied, sir"; we pay often as much to the cloakroom attendant and to the man who opens the door leading to the street. Now none of these attendants has done for the diner anything but that which has been all paid for in the bill, and the sum we expend in this way

would make a handsome addition to the funds of our charities.

At a modest computation, let us say that there are in the British Islands 2000 medical diners every week. If everyone could be induced to give 1*s.* to be devoted solely to the benefits of one or other of the above-named medical charities, then a yearly sum of approximately £5000 would be collected, a sum which would be not only extremely useful but would relieve the distress of many indigent applicants and also lessen the anxiety of the hardworking treasurers and almoners.

I am, Sir, yours faithfully,

Seymour-street, W., Feb. 14th, 1909. SEYMOUR TAYLOR.

## THE PURULENT CONJUNCTIVITIS OF INFANTS.

*To the Editor of* THE LANCET.

SIR,—Leucorrhœa in women is so universal that it has by many authorities been considered a normal condition, hence it is impossible to prevent the purulent ophthalmia of infants because the nurses get the leucorrhœal discharge of the mother into the baby's eyes. Credé's plan of dropping a strong solution of nitrate of silver into the orbit of an infant whose eye is bright and free from discharge, in fact, perfectly healthy, is obviously a mistake; in treating such cases I drop a 2 per cent. solution of nitrate of silver into the affected eye every day and give the nurse a 25 per cent. solution of argyrol which is dropped into one or both eyes every hour. This treatment will cure in about three weeks. If the eyelids are swollen, red, and inflamed I paint them with a strong ethereal solution of nitrate of silver and if the cornea threatens to give way I tap the chamber under an anæsthetic; if one eye only is affected the sound eye should be protected by the sticking-plaster shield with gauze aperture which I introduced to the notice of the profession some years ago.

I am, Sir, yours faithfully,

Feb. 15th, 1909. C. BELL TAYLOR, M.D. Edin.

## VERSION IN TRANSVERSE PRESENTATIONS BY THIGH PRESSURE.

*To the Editor of* THE LANCET.

SIR,—The case of impacted arm presentation recently reported by Mr. M. J. Pierce[1] leads me to again call attention to the method of treating such cases by a properly adjusted pressure of the thighs upon the abdomen produced by a squatting or kneeling posture. Thus, if the head of the child rest upon the *right* iliac fossa, the woman (in squatting) must plant her *left* foot squarely on the floor and forward, while the *right* foot is placed more behind and resting on its toes only. In this way the pressure of the *left* thigh is brought to bear upon the breech end of the fœtal ovoid and move it upwards and forwards towards the median line and ensiform cartilage, while the *right* thigh—its femur almost horizontal—is made to bear upon the child's head and force it from the iliac fossa, inward, to the pelvic brim. Thus version is accomplished by nature's method, the method of the "untutored savage," in whom, perhaps, the squatting posture during defæcation, &c., may explain the rarity of transverse cases in primitive peoples. If the head rest upon the *left* iliac fossa the woman should place her *right* foot flat and forward, the *left* one behind and on its toes. If instead of squatting the woman knelt, she should, if the head were on the *left* iliac fossa, kneel only on the *left* knee, the right foot resting flat upon the floor. Should the head rest upon the *right* iliac fossa she should kneel only on the *right* knee, &c. In case the woman cannot squat or kneel, the desired thigh pressure may be produced by the obstetrician manipulating the lower limbs; or, again, the pillows having been placed at or below the middle of the bed, and the head and shoulders of the woman having been much elevated thereon, the feet may be adjusted against the footboard until they have the same relation with it as they would have with the ground in a squatting posture, as previously explained, and thus bring the thigh columns to press upon the abdomen in the desired directions. Whichever method is tried, *it is important* that the thigh pressure should be maintained long enough to secure the concurrence of a few labour pains.

[1] THE LANCET, Nov. 7th, 1908, p. 1369.

In the few cases in which the method has thus far been tried it has succeeded. My object is to get other obstetricians to test it. To those who may be sufficiently interested in the matter I shall be glad to send a copy of my paper presented to the American Gynæcological Society, May, 1907, in which the proceeding is more fully explained with cuts and illustrative cases, one of these last resembling the case of Mr. Pierce, and which was successfully managed by thigh pressure, even after a labour of 28 hours' duration, with protrusion of the arm and tetanic contractions of the uterus induced by ergot.—I am, Sir, yours faithfully,

A. F. A. KING, M.D., LL.D., &c.,
Professor of Obstetrics, George Washington University.
1315, Massachusetts-avenue, N.W., Washington, D.C., U.S.A.,
Feb. 8th, 1909.

## THE CLINICAL VALUE OF HÆMOMANOMETER OBSERVATIONS.

*To the Editor of* THE LANCET.

SIR,—I have read with interest Dr. William Russell's lecture in your issue of Feb. 13th, p. 448, but I find much difficulty in following his contention regarding the limitation of hæmomanometer readings. The following passage occurs in the paragraph where he draws some comparison between digital and instrumental observations of the pulse:—

> The blood-pressurists always begin at the physiological starting-point—that is to say, no matter what power the heart is showing the blood pressure is assumed to be 100–120. This conception, when reduced to plain terms, means that a heart doing a half or a third or a fourth of its normal work—and you know that many a heart does only a half, a third, or a fourth of its normal work—yet maintains a normal blood pressure. You appreciate how absurd such a proposition is to the clinical pathologist.

The case which Dr. Russell gives in illustration, of a woman with pulse a mere flicker and a brachial pressure of 95 mm. Hg, I would suggest might bear a different interpretation—namely, that the pressure was actually 95 mm. Hg and that the contracted vessel, with its small volume of blood and corresponding small pulse-wave, left little to be detected digitally as a pulse. I venture to criticise with all due respect for Dr. Russell's great experience and extended observations, but I have for the past eight years made constant use of different patterns of hæmomanometers, and while finding it difficult to believe otherwise than that the condition of the arterial wall must frequently influence observations considerably, yet I have on many occasions observed cases with marked sclerosis of the arteries to which when the instrument was applied low readings were obtained.

Surely it is quite in accord with the mechanics of the circulation that the heart would be doing only a fraction of its normal work in maintaining a given pressure when the arteries are closed and the outlet from the arterial system diminished to what would be necessary to maintain that same pressure with dilated arteries and increased outflow. Towards the conclusion of his lecture Dr. Russell, however, states that if you relax the arteries with one hand you must encourage and help the heart with the other; in other words, you must increase its work so as to maintain the blood pressure under the different conditions, which to my mind is not in agreement with his contention but with the previous passage I have quoted from his lecture. At the present time I have one case under observation in which there is marked arterio-sclerosis and yet there is only 100 mm. Hg indicated by the hæmomanometer and there is no reason to believe that the pressure is lower than this.

For some years I have made it a practice to make rough digital estimations of blood pressure and then to take manometer readings, but with unsatisfactory results, in that I rarely obtained much agreement; and although I personally may be unable to educate sufficiently my tactile sense, yet I fancy that many of the rapid conclusions as to the state of the blood pressure one sees arrived at by clinicians would not be confirmed instrumentally. In the cases of much contracted or thickened arteries the digital estimation of internal pressure appears to me to be the more difficult, while a pressure of 60 to 70 mm. Hg in a relaxed artery may give quite a large pulse. As regards that part of the lecture relating to the asthmatic type of case which Dr. Russell thinks might possibly be due to contraction of the pulmonary vessels, has it not been shown that these do not contract under similar influences to the systemic vessels and that the

pulmonary blood pressure is regulated by variations in the systemic circulation?—I am, Sir, yours faithfully,

STEPHEN G. LONGWORTH.

District Asylum, Melton, Suffolk, Feb. 13th, 1909.

## THE PHYSIOLOGY AND PATHOLOGY OF WORK IN COMPRESSED AIR.

*To the Editor of* THE LANCET.

SIR,—In THE LANCET of Jan. 30th, p. 297, Sir Thomas Oliver published an address on the Physiology and Pathology of Work in Compressed Air, in which he described, without acknowledgment, certain experiments of mine as if he had performed them himself with the assistance of Dr. Alfred Parkin. The experiments I refer to in particular are some which I communicated to the Royal Society nine years ago. I constructed a small chamber with thick glass windows, placed a curarised frog inside and spread the web of the feet over one window, illuminated it with the arc light, and observed the capillary circulation when the pressure was raised or lowered several atmospheres. By this means I was able to disprove the often-repeated theory that increased air pressure influenced the circulation mechanically and show that bubbles of gas appeared in the vessels on decompression and blocked the circulation and disappeared on recompression. This experiment I have repeatedly demonstrated, projecting the web on the screen in my laboratory, and in 1906 I showed it at a lecture I gave at the Royal Institution. To Dr. Parkin of Newcastle, who was publishing a thesis on some cases of compressed air illness, I gave, at the request of a colleague, particulars of this experiment and where he could have a similar chamber made. Dr. Parkin repeated my experiments and in his thesis acknowledged his indebtedness to me. Sir Thomas Oliver has now assumed the authorship of these experiments for the second time. The first occasion was at a lecture which he gave at the Royal Society of Arts, for which he was awarded a gold medal. I took steps privately to inform Sir Thomas Oliver of my opinion on this occasion so that I feel assured he has on this second occasion deliberately repeated the suppression of my name and assumed the credit of these experiments himself. On this occasion Sir Thomas Oliver has also published as if they were original experiments performed by Mr. Greenwood and myself, which prove that relatively high percentages of carbon dioxide do not contribute to the ill-effects of compressed air—a fact previously controverted by Sir T. Oliver and of commercial importance, seeing that the London County Council has wasted enormous sums of money on a useless excess of ventilation in their recent Thames Tunnel caisson works. How little Sir Thomas Oliver knows of the actual experiments of which he assumes authorship, how incapable he is of interpreting correctly the experimental results, is shown by two statements in his address. He says the experiments were done on pithed frogs. This is impossible, as the circulation ceases in the web of the pithed frog. He says he acclimatised dogs to breathing at 50 pounds pressure 1·6 per cent. of carbon monoxide. In making this statement he shows that he is either ignorant of or suppresses the fundamental experiments of Haldane and Lorrain Smith on carbon monoxide, and also shows no knowledge of the law of partial pressures, a law in which he might perfect himself if he spent more time in fulfilling the duties of the chair of physiology which he continues to hold and less in setting forth other men's work as if it were his own.

I am, Sir, yours faithfully,

Loughton, Essex. LEONARD HILL.

## INFLUENZA: AN UNUSUAL SEQUELA.

*To the Editor of* THE LANCET.

SIR,—During the last month I have been attending a considerable number of cases of influenza and have noticed what to me is an unusual sequela. The cases have all been of the ordinary type, characterised by the usual symptoms of fever, severe headache, pains in the back and limbs, &c., but in none of the three cases I wish to refer to particularly were there any symptoms referable to the liver, gall-bladder, or bile-ducts till the patients were getting convalescent, when each complained of a sickly feeling after medicine or food. In two days after the conjunctiva and skin were stained the deep yellow colour of jaundice. The stools and urine exhibited the characteristic colours also. The patients had not previously had any liver affection or passing of gall-stones. The cases followed the normal course of a simple catarrh of the bile-duct and are now nearly convalescent. During a considerable experience of influenza since its reappearance in this country 20 years ago I have noticed, in common with others, that each epidemic is followed by a special sequela. In one, gastric symptoms is the leading; in another, chest affections; and in a third, nervous symptoms, &c. Although one recognises the hydra-headed character of the after-effects of influenza, these cases are, in my experience, so unusual that I thought it might be worth while putting them on record.

I am, Sir, yours faithfully,

Huddersfield, Feb. 9th, 1909. DAVID WILSON, M.D. Glasg.

## THE EFFECTS OF INJURY BY EXPLOSIVES.

*To the Editor of* THE LANCET.

SIR,—In a book which has just been reprinted and published by Messrs. Maclaren and Co., entitled "Adventures in the Rifle Brigade," by Captain Sir John Kincaid, I find the following remarkable story at p. 171 in connexion with Kincaid's account of the Battle of Waterloo:—

> Two of our men, on the morning of the 19th, lost their lives by a very melancholy accident. They were cutting up a captured ammunition waggon for firewood, when one of their swords striking against a nail sent a spark among the powder. When I looked in the direction of the explosion, I saw the two poor fellows about twenty or thirty feet up in the air. On falling to the ground, though lying on their backs or bellies, some extraordinary effort of nature, caused by the agony of the moment, made them spring from that position, five or six times to the height of eight or ten feet, just as a fish does when thrown on the ground after being newly caught. It was so unlike a scene in real life that it was impossible to witness it without forgetting, for a moment, the horror of their situation.
>
> I ran to the spot along with others, and found that every stitch of clothes had been burnt off, and they were black as ink all over. They were still alive, and told us their names, otherwise we could not have recognised them; and, singular enough, they were able to walk off the ground with a little support, but died shortly after.

Is anything similar to this known in the history of injury by explosives? The convulsive leap to the height of 10 feet must be an unconscious exaggeration, just as truthful people will estimate the amplitude of a wave in the open sea at 70 or 80 feet when it is probably only 25. But that clonic convulsions might occur is, I suppose, likely? The only powder known at the time of Waterloo was, I imagine, ordinary black powder. Can any of your readers throw any light on the matter? I may add that the rest of Kincaid's book is written in the most matter-of-fact manner and free from any exaggeration.—I am, Sir, yours faithfully,

ETONENSIS.

## SANITATION IN INDIA.

### THE PREVALENCE OF ENTERIC FEVER AMONGST BRITISH TROOPS IN INDIA.

(FROM A SPECIAL CORRESPONDENT.)

### VIII.[1]—*Flies as Carriers of Infection.*

THE rôle of insects generally in the spread of tropical diseases should of itself urge closer attention to the possibility of the infection of enteric fever being carried by flies, and preventive measures should not fail to include some attempt to reduce these pests in Indian cantonments. Experimental proof that house and other flies common to dwelling-houses, barracks, and places where human excrement is deposited play a part in the spread of enteric fever is not wanting. Celli[2] in 1888 was the first to show that the bacillus typhosus was capable of being transmitted in a virulent form by flies in their excrement, and Ficker,[3] after experimentally feeding flies on typhoid cultures, recovered the bacilli in a living state from their intestines, feet, head, and wings. Firth and Horrocks,[4] experimenting at the Army Medical School, Netley, in 1902 also found that flies were capable of carrying enteric infection from

[1] Nos. I., II., III., IV., V., VI., and VII. were published in THE LANCET of Jan. 2nd (p. 62), 9th (p. 134), 16th (p. 197), 23rd (p. 277), and 30th (p. 353), and Feb. 6th (p. 427) and 13th, 1909 (p. 501), respectively.

[2] Johns Hopkins Hospital Reports, vol. vii., pp. 30, 31.

[3] Archiv für Hygiene, Band xlvi., pp. 247–282.

[4] Brit. Med. Jour., vol. ii., 1902, p. 936.

the stools of typhoid patients and succeeded in cultivating cultures of the bacilli from broth and agar media exposed in a cage in which these flies had been placed. Hamilton[6] has isolated the bacillus typhosus from flies caught in privies and on walls and also in the room of a typhoid fever patient. Aldridge working at the same subject in India has isolated bacilli belonging to the paratyphoid group from flies caught in a barrack latrine. Considerable uncertainty has arisen with regard to certain outbreaks of enteric fever in India; and the propagation of infection to food and drinking-water in barracks by means of flies either directly from the excreta of "bacilli carriers" or ambulant cases using barrack latrines, or from native excreta in the vicinity, or, again, by means of flies carried in swarms by wind from their chief hatching or breeding grounds (in the often faulty Allahabad system of trenching excreta outside cantonments), has not been sufficiently studied generally and a line of definite prophylaxis laid down. Fly-proof doors to cook-houses and fly-proof latrines are all very well in theory but they fail in practice, and better results will be obtained in stopping fly infection by reducing the breeding grounds of flies, and this can only be done by first closely studying where these are situated and, secondly, by rendering them so unfavourable for hatching purposes that the millions of eggs deposited in human and other excreta can never hatch into flies. The first line of defence to be adopted in India should be the abolition of the dry-earth system and the introduction of a modified water-carriage system whereby the latrine pans, instead of having dry clay thrown into each pan (a procedure most often observed in the breach) by the user of each latrine, should have some bactericidal substance of strong penetrating power added to water and placed in each pan. If this were done it would not only effectually disinfect all infective excreta of "bacilli carriers" and ambulant cases but would also deter flies laying eggs in the excreta in the latrine pans. A dry system will only prove effective in India if incinerators are employed, and the cost of these, added to the cost of fuel and attendants to look after them, is prohibitive. Water-carriage system by pipes is almost impossible in the majority of stations, as there is no gradient and often insufficient water where there is a gradient for flushing purposes. Biological tanks for the same reason become ineffective and cause considerable offence under tropical conditions of sun, air, and proximity to cantonments.

Until recent years the life-history of the house-fly has been but little known; but as a result of a study of the insects which frequent human excreta Mr. L. D. Howard,[6] entomologist to the United States Department of Agriculture, has classified 77 species, 36 of which were found to breed in, and 41 were captured on, such excrement. Among the former was the house-fly (*Musca domestica*). Howard found that although these flies prefer horse manure as a breeding place—in fact, in confinement it was only on this that he succeeded in rearing them—yet when human excrement is left exposed they will breed in it in large numbers; and in latrine trenches used for the excreta of troops the eggs were found in clusters on the fæces, in some cases two inches wide by half an inch thick. Among the other flies which breed in human excrement is *Homalomyia canicularis*, sometimes called the "small" house-fly and often mistaken for the young of the common house-fly. As both these flies frequent human dwelling-houses and food-supplies they are probably of importance in connexion with the spread of infective disease generally. Both the blue bottle (*Calliphora erythrocephala*) and the green bottle (*Lucilia cæsar*) also breed in human excrement, but as they rarely frequent dwelling-houses in large numbers they are of less importance. It is difficult to form an accurate estimate of the relative abundance of flies at different seasons of the year in Indian cantonments, but from observations carried out by Aldridge,[7] O'Sullivan, Franklin,[8] Haines,[9] Smith,[10] Dwyer, and others it would seem that the seasons of greatest abundance of flies and of greatest prevalence of enteric fever correspond very closely—viz., about March and April, and again about August and September. The places in barracks where flies are always most numerous are the kitchens and latrines, the former being where they find their food, and in the latter are the moist earth and fæces which are always selected for laying their eggs in.

Aldridge[11] found that the Indian representative of the common house-fly (*Musca domestica, determinate Walker*) breeds in enormous numbers in the filth trenches, the numbers varying with the season, and in most stations in Bengal, being greatest in the early summer and after the rains. Warmth and a moderate degree of moisture appear to be the favouring conditions; the cold of winter, the rapid drying of the soil in midsummer, and saturation of the soil during the rains seem to be prejudicial to the survival of the larvæ. By turning up the soil of trenches of different ages the stages of development can easily be followed; they appear to be approximately as follows:—

| | Hot weather. Days. | Cold weather. Days. |
|---|---|---|
| Ova ... ... ... ... ... ... ... ... | 1 | 2 |
| Larvæ ... ... ... ... ... ... ... ... | 5 | 14 |
| Pupæ ... ... ... ... ... ... ... ... | 3 | 5 |

Full-grown flies are not, in most cases, to be found in large numbers at the trenches, no doubt because they do not find their natural food there; but the numbers of larvæ, pupæ, and young flies—some of them with their wings not yet expanded—to be seen on turning up the earth are so great as to make it difficult to avoid the conclusion that the majority of flies in cantonments are hatched there. For instance, in a sixth of a cubic foot of soil taken from a trench 4042 flies were experimentally incubated. It was further found that when the soil containing the larvæ was kept saturated with water no flies appeared. From observation it would appear that the eggs are laid in the filth in the latrines in barracks and the larvæ are hatched out after it is put in the trenching ground. If therefore the eggs can be killed in the excrement by strong germicidal substances the propagation of flies in this way will be put a stop to. In spite of its widespread distribution under varying climatic conditions the house-fly is not easy to rear under artificial conditions; but, experimenting partly with the eggs of these and partly with those of the blow-fly (*calliphora*), Aldridge found that these eggs are somewhat resistant to most chemical substances; immersion for two hours in common salt 10 per cent., mercuric chloride 1 in 1000, or crude carbolic acid 2 per cent., failed to prevent the larvæ hatching out. On the other hand, immersion in any fluid for 24 hours seems to kill a considerable proportion of the eggs and all larvæ. It seems probable that a still larger proportion of the eggs would be destroyed by the putrefactive processes going on in sewage, while any larvæ hatched out would be destroyed in 24 hours. To test this the following experiment was carried out at Jhansi when flies were breeding in great numbers in the trenches. A certain number of filth receptacles were left full of sewage and were closed at the trenches for 24 hours and the sewage was then trenched in the usual way; no larvæ were afterwards able to be recovered from the ground where this was trenched. Experiments might be tried to see if the treatment of sewage in a septic tank, followed by aerobic treatment and irrigation on land, would prevent the propagation of flies, but even if successful it is not to be supposed that by this means alone the propagation of flies will be entirely prevented. Stable litter probably forms a favourite breeding-ground for the house-fly and collections of garbage and refuse probably also do so to a lesser extent, and these will require to be dealt with in a more systematic way than at present. Aldridge has been unable to find larvæ in either of these after they have been trenched. If the enormous production of flies which at present goes on in the filth trenches can be stopped much will be gained.

The following evidence bearing on the relationship of fly prevalence to enteric fever incidence is not without interest. During the first half of 1905 the amount of enteric fever at Lucknow was much less than usual, the only recent years showing equally low figures being 1901–02, when the low rates were accounted for by the small number of young soldiers arriving in India owing to the South African war. It was also unmistakeable to anyone familiar with the Lucknow barracks that the number of flies was markedly

[5] Brit. Med. Jour., 1903, Epitome, p. 149.
[6] Proceedings of the Washington Academy of Science, December, 1900.
[7] Royal Army Medical Corps Journal, December, 1907.
[8] Indian Medical Gazette, September, 1906.
[9] Ibid., June, 1907.
[10] Journal of Tropical Medicine, 1903, p. 285.
[11] Royal Army Medical Corps Journal, December, 1907.

less than usual. A table compiled showed that while the number of flies at no time was very great in all parts of the barracks, yet the increase during the latter part of March and decrease at the end of May corresponded very closely with the period of enteric fever prevalence allowing for the usual period of incubation.

Again, it was also noted that, with few exceptions, the flies found in the lines were *Musca domestica determinata*, while the only species bred from larvæ and pupæ taken from the trenching grounds belonged to the genera *Hylemyia* and *Uidia*. It would, therefore, appear that in this instance, for some reason not at present apparent, the trenching grounds did not supply the enormous numbers of flies that were found in other years, and coincidently with this the amount of enteric fever was much below the average.

At Jubbulpore the largest number of admissions generally occur during March and July, during which months flies are very numerous. At Ranikhet, on the other hand, the largest number of admissions for the year occurred in May (eight cases) and June (nine cases). If a close study be made of the incidence of enteric fever from a series of statistical tables of all the stations occupied by British troops in India it will be found that at those stations where the Allahabad system of filth trenches is not employed, and also at the stations where these trenches are located at a considerable distance from cantonments, the admission rates for enteric fever fall much below the average, being in the majority of cases less than half the average. In support of this the following stations may be quoted: Bombay, Calcutta, Lebong, Rangoon, Karachi, Aden, Dagshai, Madras, and Sitapur. During the last two years the modified wet system previously described has been under trial in certain other selected stations in India and the results have been so satisfactory that it is probable that the dry earth system will be entirely done away with before long. The chief obstacle has hitherto been the profits said to have been made by the cantonment committees and grass farms, on the plea that they make money out of cultivating the trenching ground.

## CHOLERA AND PLAGUE IN RUSSIA AND THE NEAR EAST.

(FROM THE BRITISH DELEGATE ON THE CONSTANTINOPLE BOARD OF HEALTH.)

IN spite of the winter season cholera still lingers in certain parts of Russia. The infection is, however, now apparently confined to St. Petersburg and neighbourhood, the Don Cossack territory and the Tomsk government in Siberia. The following figures are in continuation of those published in THE LANCET of January 16th (p. 196):—

| | Cases. | Deaths. |
|---|---|---|
| From Nov. 14th (27th) to Nov. 22nd (Dec. 5th) ... ... | 223 | 84 |
| ,, ,, 21st (Dec. 4th) ,, ,, 29th ( ,, 12th)... ... | 269 | 128 |
| ,, ,, 29th ( ,, 12th) ,, Dec. 6th (19th) ... ... ... | 178 | 67 |
| ,, Dec. 6th (19th) ,, ,, 13th (26th) ... ... ... | 125 | 49 |
| ,, ,, 13th (26th) ,, ,, 20th (Jan. 2nd) ... ... | 138 | 40 |
| ,, ,, 20th (Jan. 2nd) ,, ,, 27th ( ,, 9th) ... ... | 111 | 47 |
| ,, ,, 27th ( ,, 9th) ,, Jan. 3rd (16th) ... ... ... | 206 | 57 |
| ,, Jan. 3rd (16th) ,, ,, 10th (23rd) ... ... ... | 289 | 122 |

In the first few weeks of the period covered by these figures the disease was present not only in the regions above named, but also in the governments of Olonetz, Vologda, Saratof, Tambof, Ekaterinoslav, Tver, Kief, Poltava, Kherson, Kostroma, and Taurida in European Russia; in the Kuban, Terek, Baku and Erivan governments in the Caucasus; and in the Semipalatinsk territory in Asiatic Russia. But the list of infected districts has diminished until, as stated above, they are limited to three at present.

Of these St. Petersburg and neighbourhood furnish most of the cases, as shown by the following figures:—

| | Cases. | Deaths. |
|---|---|---|
| From Nov. 14th (27th) to Nov. 22nd (Dec. 5th) ... ... | 154 | 45 |
| ,, ,, 21st (Dec. 4th) ,, ,, 29th ( ,, 12th) ... | 171 | 66 |
| ,, ,, 29th ( ,, 12th) ,, Dec. 6th (19th) ... ... ... | 120 | 40 |
| ,, Dec. 6th (19th) ,, ,, 13th (26th) ... ... ... | 107 | 38 |
| ,, ,, 13th (26th) ,, ,, 20th (Jan. 2nd) ... ... | 121 | 36 |
| ,, ,, 20th (Jan. 2nd) ,, ,, 27th ( ,, 9th) ... ... | 96 | 40 |
| ,, ,, 27th ( ,, 9th) ,, Jan. 3rd (16th) ... ... ... | 178 | 46 |
| ,, Jan. 3rd (16th) ,, ,, 10th (23rd) ... ... ... | 273 | 114 |

The persistence of cholera in the Russian capital, in the Don territory, and in the Tomsk government through the winter months is a rather disquieting phenomenon, and a serious extension of the disease in the summer of this year may with only too good reason be anticipated.

Fortunately the Moslem pilgrimage of this year has escaped infection. At this moment pilgrims are returning from the Hedjaz by sea and land and appear to be free from both plague and cholera. The occurrence of three cases of cholera among the crew of a pilgrim ship at Camaran, mentioned in my last letter, was fortunately followed by no evil consequences.

No further or more exact information has been received respecting the outbreak of cholera in Persia referred to in that letter. There are some even who deny that the disease appeared at all on Persian territory.

The death from suspected plague in Jeddah on Dec. 16th (also mentioned in my last letter) was followed on Jan. 4th by another, which in this instance was the object of a bacteriological examination giving positive results. There has since been a marked recrudescence of the disease there. It will be recalled that there were outbreaks of plague in Jeddah in 1906, 1907, and in the early part of 1908; in 1906 72 cases, all fatal, were recorded there between May 29th and July 27th; in 1907 365 cases with 354 deaths occurred between Jan. 8th and May 30th; and in 1908 there were 71 cases and 68 deaths between Jan. 14th and March 30th. The present revival of the disease has begun a little earlier; the returns up to the present have been as follows:—

| | Cases. | Deaths. |
|---|---|---|
| On Dec. 16th ... ... ... ... ... ... | 1 | 1 |
| Between Jan. 4th and 9th ... ... ... | 3 | 3 |
| In the week ending Jan. 16th ... ... | 2 | 2 |
| ,, ,, ,, ,, 23rd ... ... | 3 | 3 |
| ,, ,, ,, ,, 30th ... ... | 4 | 3 |

Finally, on Feb. 3rd as many as five cases with four deaths were recorded. The difficulty of dealing with the disease among the fanatical population of an insanitary town like Jeddah was indicated by events recorded in some of my letters to THE LANCET of a year ago. Fortunately, in the present year the pilgrims seem to have entirely escaped the infection. The pilgrimage has, of course, been declared "brut" (infected), with the consequence that pilgrims returning by sea will undergo at the El Tor lazaret the measures required by the Paris Sanitary Convention (1903). An attempt was made to apply preliminary quarantine and disinfection to the pilgrims before leaving Jeddah for Yanbo or other parts of the Hedjaz but it was found impossible to carry out these measures. The pilgrims, who are always armed, threatened violence if they were forced to go to the Abu-Saad lazaret to undergo them. Consequently the whole of the Hedjaz coast from Lith to El Wej was declared a "contaminated zone," against which a quarantine of five days and disinfection have been imposed. For ships leaving Jeddah for Yanbo (the port for Medina) the only measure that could be applied has been the disinfection of the ship and the destruction of rats on board. Ships for the Yemen or the Persian Gulf are sent to Camaran to undergo the above-named measures. Pilgrims returning by the Hedjaz railway are subjected to the same measures in the Tebuk lazaret. The Egyptian *mahmel*, or holy caravan, has chosen an unusual route this year. Returning from Mecca to Jeddah it took ship thence to El Wej; it then proceeded to El Oula, a station on the Hedjaz railway south of Medaini Salih, and thence took train down the line to Medina. There was an alarming attack on the line by Bedouins on this portion of the line a short while ago; but the earlier reports, to the effect that the line was cut and in the hands of the Bedouins, appear to have been exaggerated, and batches of pilgrims are already beginning to arrive at Tebuk. Some 700 tents, wire netting for surrounding the different cordons, and two portable buildings, in one of which two large disinfecting stoves have been installed, have been put up at Tebuk; a medical mission has been sent there, and it is certain that this lazaret will be a more serious and efficient institution than was the very primitive one established last year at Medaini Salih. Pilgrims who have undergone the measures there will have "free pratique" for the rest of their journey, and will not be liable to further measures at Damascus and Beirût, as was the case last year. On the other hand, pilgrims coming to the Mediterranean by sea,

in addition to the measures undergone by them in the El Tor lazaret, will be subjected to a further 48 hours' observation and disinfection in one of the Turkish lazarets, and a medical visit in the port of arrival and (those destined for Constantinople) at the Dardanelles.

The outbreak of plague in Bagdad continues. The following figures are in continuation of those published in my last letter:—

| | Cases. | Deaths. |
|---|---|---|
| Between Dec. 20th and 24th ... ... | 3 ..... | 1 |
| ,, ,, 25th ,, 27th ... ... | 0 ..... | 0 |
| ,, ,, 28th ,, Jan. 3rd ... ... | 8 ..... | 2 |
| ,, Jan. 4th ,, ,, 10th ... ... | 2 ..... | 0 |
| ,, ,, 11th ,, ,, 17th ... ... | ? ..... | ? |
| ,, ,, 18th ,, ,, 24th ... ... | 4 ..... | 2 |
| ,, ,, 24th ,, ,, 27th ... ... | 3 ..... | 2 |

Since May 7th last (with an interval of two months in the autumn without known cases), there have been recorded in Bagdad 156 cases of plague and 84 deaths.

Three sporadic cases of plague occurred in Beirût in September last, between the 19th and 23rd of the month; the source of infection could not be traced. On Dec. 17th another case was seen; the patient was employed as laundrymaid in the French hospital there; she died a little later from acute pneumonic plague. On Dec. 25th one of the sisters who had nursed her fell ill and died on the 27th. On the 29th three other nursing sisters fell ill, all with pneumonic plague, and all died. The diagnosis was confirmed by the results of a bacteriological examination. There were thus five cases of this most infectious and fatal disease in one institution, and that a European hospital, where all facilities would exist for the early recognition and prompt treatment of the cases as they occurred. In this outbreak also the origin of the infection was not traced, but it was ascertained that the first patient had fallen ill at her home in the town and that on the day before her illness began her husband had died from some disease the nature of which was not clearly established. It may reasonably be supposed that he died also from pneumonic plague and that the infection has been lingering in Beirût since the occurrence there of the three sporadic cases in September.

Constantinople, Feb. 5th.

## BRISTOL.

(FROM OUR OWN CORRESPONDENT.)

### *Bristol University.*

ON Feb. 6th a special meeting of the governors of University College, Bristol, was convened to consider a resolution approving the promotion of a Bill during the coming Parliamentary session for the dissolution of University College and the transference of its property and liabilities to the University of Bristol. Mr. Lewis Fry, who was voted to the chair, explained that the Bill had already received the approval of the council of University College, but that Parliamentary procedure required the support of a three-fourths majority of governors present at a general meeting, to be confirmed by a similar majority at a second general meeting (to be held on Feb. 19th). The Act resulting from the Bill would come into force as soon as the granting of the Charter (an event probably not far distant) brought the University into existence. Mr. Fry spoke hopefully of the prospect of a settlement with the Society of Merchant Venturers of those points over which there had been differences of opinion, and concluded with a grateful allusion to Lord Winterstoke's recent benefaction. The heads of the 13 clauses of the Bill were read and a motion approving of the Bill was proposed by the chairman, seconded by the headmaster of Clifton College, the Rev. A. A. David, supported by the sheriff of Bristol, Mr. Stanley Badock, and carried unanimously. The committee guiding the formation of the University has been able to arrange for the purchase of buildings facing Queen's-road at present in use as a blind asylum, the inmates of which are about to be moved to new premises in the suburbs. These buildings, which adjoin University College behind, will give the University a frontage on a main thoroughfare, and, moreover, a frontage attractive in appearance.

### *The Students and the University.*

In connexion with the announcement regarding a hostel for women students made in the last letter, it is interesting to read in the *University College Gazette* for January that a committee, mainly composed of lecturers of the College, with Mr. W. A. Knight as organising secretary, has been appointed to collect information on the subject of men's residential hostels. A scheme for the formation of a students' club, similar to those existing at several of the new universities, has been approved by the central committee of the University College Union. It is proposed to include a reading-room, a billiard-room, and a room for the supply of luncheons and teas at a moderate rate. The subscription will be fixed at 10*s.* 6*d.* per annum for union members and a guinea for those who have not joined the union. A movement is on foot for the organisation of a unit of the Officers' Training Corps at Bristol. The object of the corps is "to provide University students with a measure of elementary military training with a view to their eventually accepting commissions in the Special Reserve of the Officers of the Territorial Force."

### *Bristol Royal Infirmary.*

The annual meeting of the subscribers to the Bristol Royal Infirmary was held on Feb. 9th under the presidency of Sir George White. The medical report stated that during 1908 the in-patients numbered 3869, against 4249 in 1907. 53,867 out-patients were treated, compared with 50,092 in the previous year. The average daily number of in-patients was 229. The financial statement showed that the total receipts for the year amounted to £16,429 and the total expenditure to £16,849. The deficit balance against the institution now amounts to £3315, and Sir George White made an appeal for this amount to be subscribed.

### *Queen Victoria Jubilee Convalescent Home, Durdham Downs.*

At a meeting of the friends of this institution held on Feb. 5th it was stated that during 1908 1725 patients were admitted, a larger number than in any previous year, and making a total of 12,888 since the home was opened in November, 1899. The Royal Infirmary sent 554 patients, the General Hospital 595, the Eye Hospital 19, the Bristol Dispensary 62, and the Clifton Dispensary 17. In addition there were 144 free and 145 paying patients. The average stay of each was 16½ days and the average cost £36 10*s.* 3*d.* The income for the year was £2921 and the expenditure £2848. The Rev. Dr. Glover referred to the founding of a hospital for incurables in Bristol and other speakers said that such an institution was wanted to complete the series of medical charities in the city. It was also stated that there was reason to believe the Lord Mayor would take an active part in the matter and aid might be expected from members of the Wills family. A gentleman offered £500 if the institution was started and no doubt if a beginning were made the funds would be forthcoming.

### *St. John Ambulance Brigade.*

The annual meeting of the Bristol corps of this brigade was held on Feb. 11th at University College, the Lord Mayor presiding. Mr. H. R. Smith, the honorary treasurer, was able to report a total income of £1311 18*s.* and an expenditure of £1160 3*s.* 7*d.* Dr. C. A. Hayman, chief superintendent, said that the corps included a stretcher company, which trained in camp every year with the Royal Army Medical Corps and was always at the disposal of the War Office, a naval division ready to serve with the Navy, and a home hospital reserve division. The annual report shows that the corps, which is nearly 300 strong, during the past year attended to 5305 cases, in nearly half of which the transport department was called into requisition.

Feb. 16th.

## LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

### *The Annual Meeting of the Royal Southern Hospital: Private Wards and Non-payment of Medical Fees.*

THE proceedings at the annual meeting of the subscribers to the Royal Southern Hospital, held on Feb. 8th at the Town Hall under the presidency of the Lord Mayor, were enlivened by a scathing attack upon the management of the

private wards in the hospital, delivered by Dr. Charles W. Hayward. An objection was raised by Mr. W. Adamson, the President of the hospital, on the ground that Dr. Hayward, not being a trustee, was not entitled to speak. The Lord Mayor overruled the objection, as Dr. Hayward was a ratepayer and had a *locus standi* in view of the fact that £4000 had been voted to the hospital out of the rates of the city. Upon being called on to address the meeting Dr. Hayward said that he wished to call the attention of the trustees of the hospital to a matter which he thought had not presented itself to them in what he and others conceived to be the true light. There were at the Southern Hospital one or more private wards into which patients were admitted and treated on payment to the hospital of 2 guineas a week for board and maintenance, but the medical and surgical staff who attended these cases were not allowed to receive payment for their services. These patients were all, or nearly all, perfectly willing and perfectly able to pay ("No"). "I can give you an instance," Dr. Hayward went on, "in which the patient was not only able to pay, but had actually arranged to pay a surgeon for an operation. The relatives had expressed themselves as perfectly willing to pay, and had agreed that the fee was reasonable. They had also made arrangements for the patient to go into a nursing home, arranged the terms, and expressed themselves as quite satisfied that those terms were reasonable. In those circumstances a member of the committee of the Southern Hospital, seeing a relative and learning what was going to be done, said: 'Oh, never mind about that. Take her to the Southern Hospital where they will take her in and do it for nothing.' This patient," said Dr. Hayward, "was taken in at the hospital, the surgeon who had arranged to receive her was cheated out of his fee, and the nurse who had arranged to take the patient was cheated out of her fee." (Cries of "Withdraw.") "An operation was performed in the hospital, under the guise of charity, upon a patient who was perfectly willing to pay." Dr. Hayward said there were plenty of people who had been in those private wards, several well known, with good names in Liverpool, and these people were all under the stigma of receiving charity from the medical staff, if not from the hospital. It was true they paid 2 guineas a week for board and nursing, but so far as the medical attendance was concerned they had been on the charity of the medical profession as much as if they had been in the Brownlow Hill Workhouse Hospital, or the Mill Road Hospital. Several attempts were made by a section of the meeting to howl down Dr. Hayward, but he firmly stood his ground and stuck to his guns. The local papers have since teemed with letters of approval of Dr. Hayward's remarks at the meeting by members of the medical profession. The Association of the Honorary Medical Officers of the Liverpool Medical Charities held a meeting on Feb. 15th with reference to the point raised by Dr. Hayward at the Town Hall meeting and adopted the following motion, which has been sent to the local press by the secretary of the association (Dr. T. Bushby):—

> That, in the opinion of this association, any honorary medical officers attending patients in hospital who are occupying private wards should be at liberty to charge for their services. That the association does not, however, by this resolution express its approval of the existence of private wards in the general hospitals.

*Death of Mr. John Tawse Nisbet, M.D. Edin.*

The greatest distress was occasioned among the numerous friends of Dr. John Tawse Nisbet by the announcement of his sudden death on Saturday, Feb. 13th. The sad event occurred with painful swiftness. Dr. Nisbet was visiting a patient and whilst in the act of giving some surgical assistance complained of feeling unwell. He sat down in a chair and became rapidly worse, expiring in a few minutes from syncope. The tragic event could hardly be realised by his numerous medical friends as, to all outward appearance, he was the "picture of health." He was the son of a well-known minister of the Church of Scotland, the Rev. Dr. Nisbet of the Cathedral of St. Giles, Edinburgh. He had a distinguished career at the University of Edinburgh, graduating as M.B., C.M. in 1883. In 1889 he graduated as M.D., with commendation. He settled in Liverpool in 1884 and enjoyed an extensive practice. He held several appointments to charitable institutions and was formerly assistant physician to the Liverpool Infirmary for Children. He held the rank of surgeon-captain in the Lancashire Hussars (Imperial Yeomanry). Those who knew him intimately often advised him to take more leisure as he was such a hard worker. He has no doubt fallen a victim to the zeal and devotion with which he did his work. The funeral took place on Feb. 16th amidst manifestations of the widest sympathy. He leaves a widow and two children.

*The Milk-supply in Liverpool.*

A special committee of the members of the Liverpool Medical Institution was appointed some months ago to consider whether the Liverpool hospitals should be advised to take action to insure greater purity of their milk-supply with special reference to tuberculous infection and to report thereon to the society. The committee consisted of the president (Mr. T. H. Bickerton), Sir Rubert Boyce, Dr. R. J. M. Buchanan, Dr. H. H. Clarke, Dr. E. W. Hope (medical officer of health), Dr. H. E. Annett, Dr. E. E. Glynn, Dr. C. A. Hill, Dr. N. P. Marsh, and Dr. W. B. Warrington. The report, which has recently been presented to the institution and adopted, emphasises the importance of a pure milk-supply, especially in the case of invalids and children, and draws attention to the fact that more than 5 per cent. of the samples of railway-borne milk were so deficient on chemical analysis that legal proceedings were taken. 5·4 per cent. contained tubercle bacilli and 72 per cent. contained organisms commonly present in the excreta of cattle. In Appendix I. to the report are given suggested forms of contract for the supply of pure milk, designed to secure the following conditions: (1) systematic inspection of the farm; (2) periodical analysis of the milk for fats, solids, and adulteration; (3) bacteriological examination at intervals for the usual infective organisms, more especially tubercle, and for other bacteriological examination; (4) periodical application of the tuberculin test; (5) the farm and accessories to be properly equipped and kept up to an approved standard of hygienic efficiency; and (6) the use of special milk-cans or churns for transport of convenient size, rain-proof and dust-proof, and capable of being easily sealed. These to be registered, numbered, and stamped on the outside with the tare weight. Appendix II. deals with the value of the tuberculin test. A conference between representatives of the managers and medical boards of the voluntary hospitals and the milk committee of the corporation will shortly take place with a view of giving effect to these recommendations.

*The Vacant Police Appointment in Liverpool.*

The retirement of Dr. T. Bushby as medical officer of the B division of the Liverpool police after many years of devoted service is announced. The B division includes 280 police officers, together with 50 members of the staff department residing in the district. The retiring medical officer received a salary of £100 a year, medicines being supplied by the corporation. An advertisement appeared in the local press of Feb. 3rd inviting applications for the vacant appointment at a salary of £60 a year, rising to £80 after five years' service. It is a strange coincidence that the reduction in the salary is being made at a time when a large increase is contemplated in the city rates. Apparently the corporation deems that the resignation of the medical officer is a favourable time to effect a paltry economy in dealing with the lives and health of the police. The salary offered works out at less than 4*s.* a head per annum.

Feb. 16th.

## WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

*An Unfounded Charge Against an Infirmary.*

THE North Devon coroner (Mr. G. F. Brown) held an inquiry at Bideford on Feb. 10th, relative to the death of a woman, aged 30 years, who had recently died in the Bideford Infirmary. The coroner remarked that the husband having stated the woman had been improperly treated at the institution, and also having unfavourably criticised the use of the tuberculin ophthalmic test, he had ordered an inquest and had instructed a medical man unconnected with the infirmary to make a post-mortem examination; the coroner added that he considered this the best course to pursue although he knew

the husband's statements were incorrect. Medical evidence showed that the deceased suffered from an abscess, and the tuberculin test was applied to the eye as it was considered probable that this was tuberculous; eventually meningitis supervened which proved fatal. The death certificate stated the cause of death was "abscess and meningitis, probably tubercular." The necropsy showed that death was due to tuberculous meningitis. The husband now stated that he had no complaint to make against the medical staff of the infirmary. The coroner, in summing up, said that the husband was probably over-wrought at the time he made the remarks; he added that it was a serious thing to make these accusations as they might do harm to anybody, however good his reputation was. The jury returned a verdict that the deceased died from tuberculous meningitis, and exonerated the medical staff from all blame, believing they had done everything in their power for the deceased.

*The Bridgwater District Council and the Treatment of Diphtheria.*

At a meeting of the Bridgwater district council held on Feb. 10th Mr. W. Thompson, the medical officer of health, asked for authority to purchase antitoxin serum when it was necessary to use it for prophylactic purposes, and he also asked the council to defray the expense of the bacteriological examination of swabs in doubtful cases of diphtheria. The district council decided to agree to the suggestions of the medical officer of health.

*The Taunton and Somerset Hospital.*

The annual meeting of the governors of the Taunton and Somerset Hospital was held on Feb. 11th. It was stated that the work of the institution during 1908 was in excess of any previous year, while the subscriptions and donations had not increased in proportion. The unfavourable balance against the hospital is now £1473. The committee announces with regret the resignation of Mr. George William Rigden, who has been a member of the honorary surgical staff for the past 43 years.

*Vaccination in Exeter.*

At a meeting of the Exeter board of guardians, held on Feb. 9th, the clerk stated that Exeter was a very well vaccinated city. He added that during 1907 800 births were registered; of these 616 were successfully vaccinated, 1 was insusceptible, 32 had conscientious objection exemptions, 91 died unvaccinated, 22 were medically postponed, 32 had removed, and two had been summoned and fined. From Jan. 1st to June 30th, 1908, 448 births had been registered, and of these 330 had been successfully vaccinated.

*The British Dental Association.*

A joint meeting of the Western branch and of the South Wales and Monmouthshire branch of the British Dental Association was held at Torquay on Feb. 6th. There was a good attendance. Mr. G. Thomson read an interesting paper on Gingival Margins, and a discussion, in which Mr. W. H. Goodman (Exeter), Mr. C. E. Dew (Ilfracombe), Mr. W. Kittow (Cardiff) took part, followed, and Mr. Thomson replied. A paper was read on Unregistered Practice by Mr. L. Strangways (Torquay), and in the discussion which followed consideration was given to methods to meet the circumstances, having special reference to advertising and canvassing by unregistered practitioners. A motion was adopted approving the recent action of the Northern Section of the Metropolitan branch in inaugurating a defence fund and deciding that steps should be taken to start a fund on similar lines in the Western branch.

*New Workhouse Infirmary for Totnes (Devon).*

The new workhouse infirmary at Totnes was formally opened on Feb. 12th in the presence of a large gathering. The new infirmary is a handsome two-storeyed building and built of red brick with limestone dressings. It occupies the site of the old infirmary and some adjoining land. The building, which is fitted with electric light, has been thoroughly brought up to modern requirements and will provide accommodation for 40 male and 40 female patients. The cost, including furnishing, has been £8350.

Feb. 16th.

THE ASSOCIATION OF CERTIFICATED DISPENSERS.—The annual general meeting of this association will be held in the Apothecaries' Hall on Thursday, Feb. 25th, at 7.30 P.M.

## SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

*Edinburgh Royal Medical Society: Principal Sir Donald MacAlister on Medical Education.*

THE annual dinner of this society was held on Feb. 9th. The chair was occupied by Dr. W. Kelman Macdonald, senior President, and the guest of the evening was Sir Donald MacAlister, K.C.B., Principal of the University of Glasgow. The chairman, in submitting the toast of "The Guest," referred to the universal admiration felt for the way in which Sir Donald MacAlister performed the duties of his position. Sir Donald MacAlister, in reply, spoke of the reverence due to the senior medical society in the country and to such a roll of membership as it could show, a membership which included the names of Oliver Goldsmith, Charles Darwin, and Joseph Lister. He then proceeded to speak on medical education. Speaking of the General Medical Council, he said that its primary function was educational, and the kind of education which the State had put under its charge was not education considered as an end in itself, for the Medical Acts had a strictly practical end in view. Its duty was to see that the medical man possessed "the knowledge and skill requisite for the efficient practice of medicine, surgery, and midwifery." A university might properly impart and demand a higher standard than that. It might insist on more "knowledge" but it might not be satisfied with less "skill." The one concerned the reputation of the medical graduate as a man of learning and the other touched the public safety. It was in the interest of the latter that the legislature created the General Medical Council. Modern advances put new powers in the hands of medical men, but to use these skilfully more study and practice at the bedside were required than formerly. To realise this more than the second half of the present curriculum was required. When the two sections comprised more than the whole time at disposal would suffice for, some subject must give way. The practical problem was, Which was to give way? The one solution which was barred, from the point of view of the public, was that the second half should be crushed out. He went on to say that the rise of Edinburgh as a school of practical medicine for Scotland, and then for the Empire, dated from the establishment, 160 years ago, of clinical classes by Monro and Rutherford. By the thoroughness of their clinical teaching and the sufficiency of the facilities which they offered for acquiring clinical experience and skill the Scottish universities and schools had won pre-eminence, and their *alumni* had won fame as practitioners at home and beyond the seas. What they had won they could surely keep by pursuing the same method and, if possible, bettering it. But the best of teaching and the amplest of facilities would not suffice if the student had not time enough to profit by them to the full. Clinical skill could not be crammed. Time and a certain detachment of mind were factors in the product. If these were stinted practical efficiency suffered, and it was by their practical efficiency that medical men must in the end stand or fall. Changes might be needful to secure them against the curtailment or overcrowding of the period destined for clinical study, and when the need arose, if it had not indeed arisen already, he hoped that they would be granted freedom not only to institute but to modify, as circumstances required, the changes which he referred to. The General Medical Council would look after the minimum curriculum; it was on the superminimal, on the higher instruction, on the stricter standards, that the special reputation of a school or a university chiefly depended.

*The Registration of Nurses in Scotland.*

A statement on this subject has been printed and circulated to a limited extent. It deals at the outset with the Bill which was introduced by Lord Ampthill and passed through the House of Lords last session, the Bill having for its object the formation of a public register of nurses. The features of the Bill need not be recounted here, but they were of such a description that the Scottish medical and nursing professions felt that in the interests of hospital work and of public and private nursing prompt steps had to be taken to secure for Scotland such treatment as would enable it to obtain the fullest possible benefit from a system of registration. Accordingly a meeting was called on Dec. 10th last to consider the position

and was attended by eminently representative persons from Edinburgh, Glasgow, and other places in Scotland. At this meeting it was decided that legislation on the lines of Lord Ampthill's Bill would be hurtful to the interests of Scottish nursing. The meeting agreed that registration was desirable and indeed inevitable, but considered that the work of training nurses would be very much better done if a separate registration authority were constituted in each country. A small committee was appointed to draw up a scheme of registration suitable for Scotland. The result has been a report of which the following is an outline. The committee assumes that those engaged in the nursing profession are of opinion that State registration is desirable and sooner or later inevitable, so it had to consider only the form which registration should take. It seemed to the committee undesirable that the registration, and therefore the training, of Scottish nurses should be controlled by a registration council with its headquarters in London. In Lord Ampthill's Bill Scotland is most inadequately represented on the council, and if the Bill became law the training, registration, and status of Scottish nurses would be adversely affected by the fact that the council would be alien in interests and sympathy to Scottish nursing. Having regard to the excellence of the training given to nurses in the leading hospitals, the proposal to make examination by the registration council an essential qualification for registration was unnecessary and would place an undue burden and expense on candidates for registration, and further would tend to create the impression that the main object to be aimed at in training was to enable a nurse to pass such examination. In the opinion of the committee it was preferable to leave examinations in the hands of the training schools, the registration council reserving powers of supervision. This view coincides with the recommendation of the select committee which reported to Parliament in 1905 on the question of State registration. The committee also objects to the amount of the fee to be charged for registration. The committee recommends that Parliament should be solicited to pass a Registration Bill exclusively applicable to Scotland, and a draft Bill is appended. The committee is of opinion that a separate registration council in Scotland would stimulate and promote the training of Scottish nurses; while all the advantages of a scheme embracing the whole kingdom would be obtained by inserting in any Bill a clause providing that nurses registered in England or in Ireland should be held as registered in Scotland, and that nurses registered in Scotland should be held as registered in England or in Ireland. The terms of a draft Registration Bill are appended to the above statement. The statement is signed by the lady superintendents of nurses at the Edinburgh Royal Infirmary and the Glasgow Royal Infirmary and by the medical superintendent of the Glasgow Western Infirmary.

*New Infirmary for Perth.*

The annual meeting of the subscribers to the Perth Infirmary was held on Feb. 8th. The ordinary revenue shows a deficiency of income over expenditure of £837, but the sum of £1516 was received from legacies. 3190 cases were treated during the past year as against 3333 in 1907. The position as regards the reconstructing or building a new infirmary was reviewed. A few years ago in answer to an appeal for funds to reconstruct the institution the sum of £15,649 was received, and several of the managers were of a mind that a favourable time had come for initiating a scheme to erect a new infirmary, and at the last meeting of the subscribers a motion was carried remitting to the directors a scheme to provide a new infirmary on a new site. The Perth Glover Incorporation has offered to feu 8¼ acres of ground near the Burghmuir reservoir at £8 an acre, and also to give £200 towards the building fund. To erect a new building containing 100 beds would cost approximately £40,000. Of the £15,000 odd subscribed towards reconstruction, £9638 are available for the new building scheme, and an additional £3000 have been subscribed for that scheme. £7000 of legacies are available, and with the £10,000 which the old site is supposed to be worth there is a total of £29,638, leaving £10,362 to be subscribed. Some little time ago an appeal was made for this sum and already £1000 of it have been promised, while more is dropping in. The directors will call a meeting of qualified subscribers within the next six months to consider the results of the appeal now before the public. Subscriptions of £500 from Mr. C. A. Murray of Taymount (the chairman) and of £50 from Sir Robert Moncrieff were announced. The meeting approved of the proposed site and authorised the directors to secure it. Miss Logan, who has been for 31 years matron of the infirmary, contemplates retiring, and was awarded a retiring allowance of 50 guineas per annum. Mr. John Thomas, sheriff clerk, who has been a director for 25 years and chairman of the house committee, retires at this time and was thanked for his valuable services.

*Dick Bequest and Charities.*

The trustees have allocated a sum of nearly £311,000 to Scottish charities, among which are: to Dundee Royal Infirmary, £1000; to Association for the Blind, Orkney, £500; to Blairgowrie and Rattray Cottage Hospital, £500; to Feehney Industrial School, Perth, £500; to Gilbert Bain Memorial Hospital, Lerwick, £500; to Highland Orphanage, Inverness, £500; and to Society for Treatment of Chronic Disease and Relief of Incurables in Perth and Perthshire, £500.

*Presentation to Professor Walker.*

Professor Walker, F.R.S., who for the last 14 years has been professor of chemistry in University College, Dundee, has been translated to Edinburgh and was entertained at dinner by a number of friends on the evening of Feb. 12th. Principal Mackay presided and proposed the toast of "Our Guest," and at the same time made a presentation of an antique cigarette box to Professor Walker.

*The Care of Cases of Incipient Insanity.*

The outcome of negotiations between the Dundee Royal Asylum directors and those of the Dundee Royal Infirmary has been that a working arrangement has practically been come to whereby the infirmary authorities are to try the experiment for a year of attending to the treatment of cases of incipient insanity. The asylum directors, under their new charter, have power to spend money in this direction, and terms satisfactory to both parties have been arranged.

*Aberdeen Royal Infirmary: Annual Report.*

The annual report of the Aberdeen Royal Infirmary, which has just been issued, states that the in-patients treated during the year numbered 3228. The average number of days in hospital was 25. 1933 operations were performed on in-patients. The death-rate was about 6·6 per cent. of cases treated but a great many of these died within 48 hours of admission. 17,657 out-patients were treated. The balance-sheet shows a deficit of £131 on the year's working. In connexion with the gift of £25,000 from Lord Mount-Stephen in May of last year the directors, after careful consideration of the whole circumstances of the institution, propose to apply the funds as follows: (1) in erecting, in connexion with the surgical block, three new operating theatres, each with suitable surgeon's room and anæsthetic and sterilising rooms, one of these theatres and appurtenances being attached to and opening from each of the floors of that block; (2) in erecting a building to provide suitable accommodation for the out-patient department which would contain rooms for treating and dressing casualties and surgical patients, surgical and medical admission rooms, wards for ear and throat patients, and also for cases requiring special precautions or isolation, also suitable premises to which the dispensing rooms might be removed from their present site; (3) in reconstructing the portion of the basement of the surgical block at present occupied by the dispensing rooms so as to provide suitable accommodation for the electrical department; (4) in improvements on the premises occupied by the gynæcological department; (5) in improvements on the premises occupied by the ophthalmic department; and (6) in providing increased and improved accommodation for the resident medical staff and for the nursing staff by utilising the space at present occupied by the casualty and out-patient department and in certain other minor improvements. There is no room on the ground at present belonging to the infirmary for the building proposed to be erected under the second branch of the above scheme. The block of ground known as "Sim's Square" on the other side of Woolmanhill from the infirmary was some years ago acquired by the trustees of the Primrose Trust in the expectation that it would be required by the infirmary for extension. That piece of ground is now available for the extension of the infirmary, the price paid for it (£7000) being part of the £10,000 which the Primrose trustees had resolved to set aside as a gift to the infirmary. It is proposed to erect on part of that piece of ground the additional building above referred to.

Feb. 16th.

# IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

### *Housing of the Dublin Poor.*

AT the last meeting of the Statistical Society of Ireland a paper was read by Mr. W. Lawson, LL.D., on the subject of overcrowding in Dublin. There was a large attendance and the Attorney-General for Ireland presided. Allusion was made to the extension of the provisions of the original Public Health (Ireland) Act, 1878, by the Dublin Corporation Act of 1890. It was pointed out that Section 20 provides for the registration of tenement houses by the corporation and imposes penalties for irregularities; while Section 30 enables the corporation to make by-laws regulating the number of occupants and provisions of space. The by-laws which are in force at the present date were made by the corporation on August 13th, 1902, and approved by the Local Government Board on Sept. 3rd, 1902. The enforcement of these by-laws is necessarily a matter of difficulty and attended with great expense. A large staff is employed by the corporation, including six women inspectors. The excellent results obtained by the labours of the latter have been shown by the published account of the management of the tenement houses in Grenville-street and Summer-hill which are owned by the Alexandra Guild Company. The report of Surgeon-Colonel D. Edgar Flinn, medical inspector of the Local Government Board (dated Nov. 30th, 1906), specially pointed out that the rate of mortality was highest in the most crowded and poorest districts, while it laid stress on the fact that a fee of £1 1*s.* per annum is now charged to owners of tenement houses for the cleansing of back yards which was formerly done without charge, and expressed a doubt as to whether this step in urban economy was really a matter for congratulation, very few owners having paid the requisite amount. The Alexandra Guild (Tenements) Co., Limited, was started by members of that guild with a capital of £6000 and owns five houses (two in Summer-hill and three in Grenville-street) which contain 52 rooms and accommodate 47 families, which include about 200 persons. Two families only had two separate rooms, while three others had each an adjoining closet. The rents were those of the neighbouring tenement houses, from 1*s.* to 3*s.* 6*d.* per week, and a dividend of 2½ per cent. had been paid to the shareholders, leaving a "balance carried forward," showing that the plan could be worked at a moderate profit at least, even when engineered by volunteers. The Social Service (Tenements) Co., Limited, which was formed in 1900 by members of the Dublin University, owned seven houses in Grenville-street. The rents vary from 4*s.* 6*d.* to 2*s.* for a double room, and from 3*s.* to 1*s.* 6*d.* for a single one. There had been a good deal of loss from bad debts and rooms unlet (from 10 to 13 per cent.) which also limited them to a 2½ per cent. dividend, and forced them to the conclusion that "until the public health authorities put severe pressure on the bad landlords it would be very difficult for those landlords who endeavoured to maintain their houses in a healthy and well-ordered state to obtain a fair profit." Statistics show that nearly one-third of the whole population of Dublin, including the entire metropolitan registration area, is composed of labourers, hawkers, porters, and so on. In 1907 the death-rate in this class was 31·9 per 1000. The fact is also before us that 37 of every 100 families of the population of this city live each in a single room. With these conditions staring us in the face the obvious duties of our urban legislators can hardly be made more clearly demonstrable.

### *Irish Medical Association.*

At a meeting of the Fermanagh branch of the Irish Medical Association on Feb. 6th it was resolved that—

> Though large sums of public money are paid to those who instruct the public in agriculture, dairying, fruit culture, the technicalities of various trades, the care of cattle, fowls, bees, &c., &c., and notwithstanding that the community is taxed for the maintenance of hospitals and sanatoria for the treatment and cure of disease—much of which is preventible—no public money has hitherto been available for the remuneration of those properly qualified to instruct the people in matters of hygiene and the preservation of their health. Now that the legislature has at length recognised public health lectures as a subject of technical education, and as one entitled to share in the local grants, it is no longer necessary to regard the services of the profession in lecturing and instructing the people as a matter of philanthropy. And while we consider such philanthropic societies as the Women's National Health Association are deserving of every sympathy and encouragement, we are of opinion that their existence is the strongest possible proof and condemnation of the neglect and incapacity of the Government, central and local, in matters of sanitation and public health. We are further of opinion that medical men should not lecture under the auspices of such philanthropic societies, or at all, unless adequate remuneration be provided, and we suggest that these societies should coöperate with the county councils for the selection and remuneration of suitable lecturers. We desire to point out that if medical men continue to give public health lectures gratuitously philanthropy will be usurping the functions of the Government and local authorities will never be given the opportunity of exercising their newly acquired powers of paying for lectures and instruction in hygiene and public health.

### *Infectious Disease in Ireland.*

During the four weeks ending Feb. 6th 166 cases of infectious disease were notified in Dublin (26 being scarlet fever, 24 diphtheria, 58 enteric fever, and 46 erysipelas), while in Belfast there were only 78 cases notified (25 being scarlet fever, 14 diphtheria, 9 enteric fever, and 24 erysipelas).

### *Old Age Pensions Act: Official Visitation.*

The action of the Government in despatching six officials from Somerset House to Ireland to inquire into the working of the Old Age Pensions Act in this country has elicited a good deal of comment from the Nationalist journals. And many of us who are not fixedly attached to any political programme are disposed to regard it as a work of supererogation in this very "previous" stage. The causes for the existence of a larger proportion of claimants on this side of the Channel are surely but too well known. And it has been pointed out even by English papers that so far from Ireland receiving more than her fair share of the Pensions Fund she is absorbing less than might have been expected in a land of proverbial poverty. The almost complete absence of other resources than those of land has promoted the excessive emigration of the younger members of the population—that is to say, of the most healthy and vigorous members of that important section. This emigration current has continuously drained Ireland ever since the middle of the past century and has continued without intermission to increase the relative proportion of the aged and infirm and the victims of fragile constitutions and of tuberculous and other chronic diseases. The *Daily Telegraph* has recently pointed out the contributory importance of our dwindling population in furnishing the apparent excess in the proportion of Irish claimants to the benefits of the new Act.

### *Obituary.*

The news of the death of Dr. Hugh Waddell, which took place on Dec. 23rd, 1908, at the Arrow district hospital, Arrowtown, Otago, New Zealand, has been received with very great regret by his many friends in Belfast and Ulster. The deceased, who was only 35 years of age, was the eldest son of the late Rev. Hugh Waddell, B.A., a Presbyterian missionary from the North of Ireland, at Azabo, Tokio, Japan, and was educated at the Belfast Royal Academy and at Queen's College, Belfast. Even before completing his medical studies he showed signs of pulmonary tuberculosis, and it was in the hope of regaining his health that he went to New Zealand. For a time he did improve and built up a very good practice, but the disease recurred and from it he succumbed. Dr. Waddell was a member of a very talented family and was a grand-nephew of Captain Mayne Reid, the novelist.

Feb. 16th.

# PARIS.

(FROM OUR OWN CORRESPONDENT.)

### *Acute Poisoning by Subnitrate of Bismuth.*

AT a meeting of the Hospitals' Medical Society held on Jan. 22nd M. Bensaude and M. Rivet gave an account of a young woman, aged 22 years, suffering from tuberculous stenosis of the small intestine. She had been in the habit of taking subnitrate of bismuth in doses of from 15 to 30 grammes. She developed symptoms much like those of methæmoglobinæmia, such as difficulty of the respiration, convulsions, a subnormal temperature, and intense cyanosis. The patient was in a very grave condition for two days but nevertheless recovered. These symptoms, which have occurred a certain number of times since the extensive use of the subnitrate of bismuth in radioscopy, differ entirely from the aural and intestinal symptoms which have been

known for a long time and which are due to the impurities in the drug. The symptoms under discussion are due to the formation of nitrites and their absorption in the intestine. This happens especially in patients whose intestinal tract is damaged. This does not mean that they must not be given subnitrate of bismuth in therapeutic doses but that the carbonate should be used in their case for radioscopic purposes.

*The Treatment of Tetanus by Sulphate of Magnesium.*

At the same meeting M. Netter communicated a note by M. Dobré upon a child, aged eight years, who died from tetanus in spite of receiving an early injection of antitetanic serum besides an intraspinal injection twice repeated of two cubic centimetres of a 25 per cent. solution of sulphate of magnesium. The case showed, in spite of the unfavourable result, the sedative effects of the latter procedure, for a temporary improvement plainly followed on the injection with no secondary aggravation of the nervous symptoms. It would appear right, then, to regard this remedy as only symptomatic, as the improvement is only transitory and affords no hope of cure. The injection ought to be repeated after 24 hours.

*The Treatment of Wounds of the Lung.*

At the Surgical Society on Jan. 20th M. Auvray described three cases of wounds of the lung. M. Français operated upon the two first. One was the case of a young woman, 27 years of age, who had shot herself with a revolver at the level of the first intercostal space. An immediate operation allowed of the suturing of a wound situated near the apex of the lung, and in spite of the complication of an empyema the patient made a good recovery. The second case was that of a girl, aged 19 years, in whom the bullet had entered in the second left intercostal space 5 centimetres from the middle line. The gravity of her condition forced M. Français to operate without an anæsthetic. He turned back a large thoracic flap and sutured the wound of the lung (which he had diagnosed), but the patient died on the next day. The third case was that of a man 30 years of age. M. Auvray operated within five hours of the accident, when there was already severe surgical emphysema of the thorax, neck, and head. He cut an osteo-cutaneous flap and sutured a wound in the antero-external surface of the lung. The patient died on the third day, probably from hæmorrhage rather than from infection, but no necropsy was performed. M. Auvray considers that as regards the procedure to be adopted in operating it is impossible to lay too much stress on the necessity for a systematic search in every case for the hole of exit of the bullet from the lung on its posterior and the back part of its interior surfaces. In M. Auvray's case, in which this precaution was omitted because from the shape of the pulmonary wound it was thought that the bullet had not traversed the lung, it is very probable that the patient died from an undiscovered wound at the back of the lung. The drainage of the pleural cavity is another point of great importance in the treatment of wounds of the lung. Drainage from below is the best safeguard against the infective sequelæ to retention. It must still be considered that surgical intervention should only be employed exceptionally in dealing with wounds of the lung, and that an expectant treatment is the most desirable policy.

*Suppurative Folliculitis of the Beard Treated by Raw Coal Tar.*

At a meeting of the French Society of Dermatology and Syphilography M. Brocq and M. Fernet showed a patient who for ten months had been suffering from folliculitis of the beard. Various methods of treatment having been tried in vain a layer of raw coal tar was painted on with the result of a rapid improvement.

Feb. 16th.

## BERLIN.

(FROM OUR OWN CORRESPONDENT.)

*King Edward's and Queen Alexandra's Visit to Berlin.*

DURING their recent visit to Berlin King Edward and Queen Alexandra at different occasions came in touch with medical men and also showed a great interest in medical institutions. At the reception in the town hall Professor Koch, who is one of the "Ehrenbürger"—honorary citizens—of this city, was introduced to, and had an interview with, His Majesty. At the special request of the King, Professor von Renvers, the body physician of the late Empress Frederick, was also present. The Royal couple visited the Empress Frederick House for post-graduate study, an institution which has been described in these columns. This institution was under the patronage, and constructed after the plans, of the late Empress but she unfortunately died before it was finished. King Edward had previously shown his interest in the institution which bears the name of his deceased sister by sending a special representative to the opening ceremony a few years ago. The Royal party, including a numerous British and German "suite," was received by the president of the central committee for post-graduate study, Professor von Renvers, and by the director of the Empress Frederick House, Professor Kutner. They were shown over the premises and visited the historical department, which is under the care of Professor Holländer, the nursing department, and also the lecture rooms, where Professor Kutner delivered a short lecture and showed lantern slides. The Queen, together with the Empress, visited the Virchow Hospital, one of the largest and finest hospitals of the world, constructed at an expense of 13,000,000 marks (£650,000) by the city of Berlin. Their Majesties were received by the mayor of Berlin; the administrative manager, Dr. Ohlmüller; and by Dr. Goldscheider, chief physician, and Dr. Hermes, chief surgeon. Several wards were inspected and the Queen expressed her satisfaction at the splendid and lavish arrangements of the hospital. Unfortunately, His Majesty the King had caught a slight chill owing to the unusually cold weather, so that he was obliged to call in a Berlin laryngologist—an interview which was originally not on the programme of his visit.

*Cancer Produced by Roentgen Rays.*

Dr. Coenen of Breslau, writing in the *Berliner Klinische Wochenschrift*, describes the case of a man, 41 years of age, who had been engaged in radiographic work for ten years. He had suffered from dermatitis on the hands for several years; three months ago painful ulcers developed on two fingers. A portion was removed for microscopical examination and it was ascertained that the ulcers showed malignant characteristics. Both fingers were accordingly removed and the wounds healed by primary union. Cases of malignant growths caused by Roentgen rays are not unusual, and several have been described by German and English authors; they were nearly all carcinomatous, and Dr. Coenen is of opinion that they are caused by a chronic irritation of the epithelium produced by the x rays. The genesis of the "Roentgen cancer" is still inexplicable in view of the fact that by the same kind of rays a cancer may be both produced and cured.

*South-West Africa as a Health Resort for the Tuberculous.*

Some time ago it was proposed to settle tuberculous patients in German South-West Africa, where the air was said to be specially favourable to this class of patients. The German central committee for the fight against tuberculosis lately considered this proposal but declined it. It was decided neither to settle tuberculous people as colonists nor to send them to the colony for a temporary stay in sanatoriums. It was argued that the efficacy of the climate of South-West Africa was not yet sufficiently proved and that the expenses of a trial would be high. It was, however, decided to support tuberculous people living in South-West Africa by a certain grant of money.

Feb. 16th.

## ITALY.

(FROM OUR OWN CORRESPONDENT.)

*Small-pox in Parma.*

PARMA, on the main line of travel from Milan to Florence, Rome, and Naples, has just witnessed an outbreak of small-pox which, happily, seems to be now circumscribed. A soldier died at the military hospital from variola which he had brought with him from a district in the Marches. His linen, by some unexplained inadvertence, had passed to the laundress without being disinfected. She took ill of the same disease, as also did a subordinate of hers. These two were at once isolated, not, however, in a special *locale* for

such cases (there being none of the kind in Parma), but in the *reparto* destined for infective diseases in the hospital. A third case, that of a little girl, was also duly noted and similarly disposed of. The houses from which they were taken were disinfected and the other inmates were vaccinated; the neighbouring tenements were also dealt with in the same manner. A fourth case has been subjected to like treatment, and the last report announces that they are all of a non-malignant type and on the fair way to recovery. Vaccination has been rigorously practised on all the *personnel* of the Pubblica Assistenza who took part in the conveyance of the small-pox patients to the hospital, as also on the *personnel* of the prisons. Much of this practice seems like that of locking the stable door after the steed has been stolen, so it is possible that the disease has not yet numbered its last victim. Let us hope that an earlier, more systematic, and more thorough enforcement of the prophylactic may be initiated, and not in Parma only but in other centres where similar negligence is but too likely to have occurred.

*Snow, Thaw, and Flood.*

Not for many years has there been such a heavy snowfall as that which has visited the Alta Italia. Milan has suffered perhaps more than any populous centre in that region, communication even from street to street being obstructed if not actually suspended, and the glass roof of the spacious Galleria having fallen in here and there under its white burden. The succeeding thaw (*disgelo*) has swollen many rivers, even in Central Italy, to the overflow of their banks, and Father Tiber, as well as Father Arno, is careering along with scant consideration for the damage and the loss which he is inflicting in his course. The thaw, in turn, has been succeeded by a steady *tramontana* (north wind) which, in Tuscany particularly, has added many cases of pneumonia to the sick list, coming down as it does from the snow-wreaths on the Apennines, and enfilading the thoroughfares with its "chilled shot" against which the befurred pedestrian makes but a poor stand. Spring, however, is now within measurable distance, bringing in its train the "transformation scene" which makes the season in Italy delightful to native and foreigner alike.

*The Darwin Centenary.*

The author of "The Origin of Species" has nowhere such enthusiastic admirers as in Italy, where his writings, well translated on the whole, have a wide diffusion. Much more than in the country of his birth, he is pressed into a service which, it is fair to say, he never contemplated—that of anticlerical propaganda, and it is to be feared that the official celebration of his centenary will be marred by intemperate attacks on interests which he never dreamt of assailing. The most widely circulated of Italian newspapers, the ultra-Radical *Secolo* of Milan, dedicates a long and excellently written article to the "Colosso di Scienza" (as it calls him) with much of which his compatriots cannot but agree, though it might profitably have dwelt more on his patient persistence in research and his absolute freedom from partisanship which was as characteristic of him as it is foreign to many of his continental disciples. These latter would do well to study the writings of another great English pioneer—Francis Bacon, who was even more pronounced than Darwin in disclaiming sympathy with the aggressive or revolutionary spirit, and who (such was his humility) anticipated Kant in his subscription to the pregnant injunction of the great Stoic satirist:—

"Tecum habita, et noris quam sit tibi curta supellex!"

Feb. 14th.

WALSALL HOSPITAL.—The financial position of the Walsall Hospital has become so much worse that the executive committee has felt itself compelled to close the new wards. At a recent quarterly meeting the chairman of the executive committee stated that the normal income of the hospital was only sufficient to maintain 40 beds, or rather less than half the total number in the hospital; fortunately, however, by utilising a sum of £500 left by the late Mr. Chevasse the committee had been able to keep 50 beds open. Since the system of medical inspection of schools commenced the increase of out-patients has been so great that it has been a source of deep concern to the committee, but it is hoped that with regard to this matter some satisfactory arrangement may be arrived at between the executive committee and the education committee.

# Obituary.

## GEORGE ELLIS, M.B. DUB., F.R.C.S. IREL.

THE last medical link in Ireland which connected the opening decades of the nineteenth and twentieth centuries was broken on Jan. 26th by the death of the *doyen* of Irish medicine in the 100th year of his age. George Ellis was the last survivor of the three "grand old men" who splendidly upheld the traditions of the Dublin School of Medicine. These three nonagenarians referred to were Henry Tweedy, who died in 1906 at the age of 96 years; Sir John Banks, who died last year at the age of 97 years; and the subject of the present notice, who had almost reached his 100 years. Dr. Ellis, being possessed of private means, made no special efforts in the direction of popular practice; his name was not added to the Medical Register until an interval of 24 years had elapsed after qualifying (1834–1858), and he had definitely retired from purely professional work some 40 years before his death. His attitude towards the profession appears to have been that of a sympathetic and appreciative observer. The single small volume which he published gives convincing testimony to the philosophic bent of his mind and the studious culture with which he had developed it. This book was "Irish Ethnology Socially and Politically Considered; Embracing a General Outline of the Celtic and Saxon Races, with Practical Inferences."

An Irish correspondent writes: "Dr. Ellis very evidently had adopted the item of peripatetic dogma which taught the immeasurable superiority of intellectual contemplation to mechanical action. The text of his small volume contains many observations which may be commended to the present attention of Irish legislators. It was published in 1852 and its inspiration was largely derived from the terrible experiences of the famine from which the country was just recovering. His contrast of the two races in Ireland contains much that is true—now as then—while obviously flavoured by the investing atmosphere of the ascendancy of the physically stronger and less sympathetic: 'The native Irish ..... although not equalling the other race in the appearance of neatness and comfort visible to the stranger, they here display a very favourable point in the Celtic character, which is that the Celt, perhaps of all other men, can most easily accommodate himself to the circumstances in which he is placed; his quick intelligence and perception of character rendering easy the acquisition of the habits and customs of those with whom he mixes, provided *his own clan* be not sufficiently numerous around him, to keep up the evils of *isolation*.' It is perhaps only an Irishman of the most observant type who can estimate the amount of truth contained in this quotation. The sentence—and the whole of the volume in which it is contained—is worthy of the most brilliant epoch of the Dublin School of Medicine and allied sciences and of the contemporary and intimate friend of Freke who, as was pointed out some months ago by your Dublin correspondent, published a chart of the *evolutionary origin of species* more than ten years before the seismic revelation of the Darwinian theory."

## HENRY E. CLARK, C.M.G., F.R.C.S. (HON.) EDIN., L.R.C.P. EDIN., M.R.C.S. ENG.

BY the death from pneumonia, which occurred recently, of Mr. Henry E. Clark, C.M.G., one of the oldest surgeons practising in Glasgow has passed away. Mr. Clark was born at Wootton Wawen, Warwickshire, in 1845, and received his medical education at Anderson's College Medical School in Glasgow. In 1870 he qualified L.R.C.P. Edin., and in 1871 took the M.R.C.S. of England, and joined in 1876 the Faculty of Physicians and Surgeons of Glasgow. After filling junior posts in some of the infirmaries in Glasgow he was appointed assistant surgeon to the Eye Infirmary and dispensary surgeon to the Royal Infirmary. He was subsequently appointed surgeon both in the Eye Infirmary and in the Royal Infirmary, holding the position in the latter hospital until 1906, when he retired under the age limit. He was well known as a teacher of anatomy and filled the positions of lecturer in anatomy in the Glasgow Royal Infirmary School of Medicine and later that of professor of anatomy at St. Mungo's College. In 1902 he was transferred to the chair of surgery of St.

Mungo's College which he occupied until his retirement four years later. Mr. Clark published many contributions in the current medical periodicals and his bent as an anatomist was expressed in his editorship of the ninth, tenth, and eleventh editions of Wilson's "Anatomist's Vade Mecum," one of the most popular student's text-books of the day. At one time he was editor of the *Glasgow Medical Journal*. At different periods he filled the presidential chairs of three of the medical societies of the city and for a term he was also president of the Faculty of Physicians and Surgeons of Glasgow. At the time of the South African war Mr. Clark offered his services and was chosen to go out and take medical charge of the Scottish National Red Cross Hospital at Kroonstad, where his services met with the highest praise. On his return he was gazetted C.M.G. He was an Honorary Associate of the Order of St. John of Jerusalem and in 1905 was elected an Honorary Fellow of the Royal College of Surgeons of Edinburgh.

### THOMAS JOHN TUCKER, M.R.C.S. ENG.

SURGEON-MAJOR, ARMY MEDICAL DEPARTMENT (RETIRED).

Surgeon-Major Thomas John Tucker died last week at his residence, The Dean, Hindon, Wiltshire. He received his medical education at Guy's Hospital and qualified M.R.C.S. Eng. in 1855. He entered the army as an assistant surgeon, being attached to the 31st Regiment. He saw service during the Indian Mutiny campaign and was present at the mutiny of the three native regiments at Dinapore in July, 1857, at the defeat of the rebels under Koer Singh, in the advance to Lucknow in February and March, 1858, and at the siege and capture of the city. He received the medal with clasps for his services during the campaign. Surgeon-Major Tucker retired from the service in 1877.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Heinrich Brat, well known for his chemical researches, resulting in the preparation of various new drugs—e.g., bromocoll and barutin; also for his work in connexion with trades hygiene. He was for some years in the service of a very important aniline manufacturing company and thus had many opportunities of carrying out his various special researches. His age was only 41 years.—Dr. Franz, privy court councillor of Langenschwalbach.

# Medical News.

ROYAL COLLEGES OF PHYSICIANS OF LONDON AND SURGEONS OF ENGLAND.—At a meeting of the Comitia of the Royal College of Physicians on Jan. 28th and of the Council of the Royal College of Surgeons on Feb. 11th, the diplomas of L.R.C.P. and M.R.C.S. were conferred upon 81 candidates who have completed the Final Examination in Medicine, Surgery, and Midwifery of the Examining Board in England and have complied with the by-laws. The following are the names of the successful candidates:—

Melville Mortimer Adams, Guy's Hospital; Douglas Allan, B.A. Cantab., Cambridge University and Guy's Hospital; Evelyn Addison Wentworth Alleyne, St. Mary's Hospital; Mark Blakiston Baines, Oxford University and London Hospital; Charles William Tresidder Baldwin, Charing Cross Hospital; John James Harkness Beckton, St. Bartholomew's Hospital; Alfred William Bevis, St. Mary's Hospital; Benjamin Biggar, St. Bartholomew's Hospital; Frederick John Chanter Blackmore, Sheffield University and University College Hospital; Wilfrid Blaydes, B.A., LL.B. Cantab., Cambridge University and St. Bartholomew's Hospital; Owen Henry Bowen, St. Bartholomew's Hospital; Francis Brachi, St. George's Hospital; Edward Abraham Coorey, L.M. & S. Ceylon, Ceylon Medical College and London Hospital; Edward Leslie Councell, L.D.S. Eng., B.D.S., Liverpool University; Benjamin Dale, King's College and St. George's Hospitals; James Thomas Daly, L.D.S. Eng., Middlesex Hospital; Harry Williams Beresford Danaher, London Hospital; Maurice Davidson, M.A., M.B., B.Ch. Oxon., Oxford University and University College Hospital; Pedro Jaoquim de Miranda, L.M. & S. Bombay, Bombay University, King's College and University College Hospitals; Samuel Dixon, M.A. Cantab., Cambridge University and St. Bartholomew's Hospital; Percy Albert Stanley Dyson, Guy's Hospital; Harry Leon Gauntlett, King's College Hospital; Manchersha Dhanjibhai Dorabji Gilder, B.A., L.M. & S. Bombay, Bombay University and University College Hospital; Robert Lionel Glass, Bengal and London Hospital; Bernard Grainger Goodwin, Birmingham University; Francis Jervis Gordon, Cambridge University and St. Bartholomew's Hospital; Arthur Atkins Greenwood, Guy's Hospital; Sydney Harold Griffiths, Middlesex Hospital; William Edwin Haigh, University College Hospital; Martin Hallam, Sheffield University and London Hospital; Wyger Harmens, B.A. Cantab., Cambridge University and St. Thomas's Hospital; Charles Brehmer Heald, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital; Edward Coomber Hobbs, St. Mary's Hospital; William Cliff Hodges, B.A. Cantab., Cambridge University and London Hospital; George Holman, Birmingham University; Basil Hughes, M.A. Cantab., B.Sc. Lond., Cambridge University and King's College Hospital; Herbert Edward Humphrys, B.A. Cantab., Cambridge University and St. Thomas's Hospital; John Edward Lionel Johnston, St. Mary's Hospital; Hormusji Dorabji Kanga, B.A., L.M. & S. Bombay, Bombay University; Mozaffer Din Ahmed Kureishi, Punjab and King's College Hospital; Frank Fortescue Laidlaw, M.A. Cantab., Manchester University and St. Bartholomew's Hospital; Miles Charles Shrieves Lawrance, Manchester University; Harry Lee, B.A. Cantab., Cambridge University and Guy's Hospital; Alfred Everard Lees, Guy's Hospital; Herbert Cubitt Lucey, Guy's Hospital; John Carrington Markiove, B.A. Cantab., Cambridge University and St. Thomas's Hospital; Samuel Parker Mort, Manchester University; Shamrao Ramrao Moolgaokar, Bombay University and King's College Hospital; Henry Rubert Mullins, Oxford University and Guy's Hospital; William James O'Donovan, London Hospital; Edward Edmondson Paget-Tomlinson, B.A. Cantab., Cambridge University and London Hospital; William James Penfold, M.B., C.M. Edin., Edinburgh University and London Hospital; Arthur Henry Penistan, London Hospital; Jean René Perdrau, Guy's Hospital; Michael William Phipps, Queen's College, Cork, and London Hospital; Clifford Crawshaw Pickles, Leeds University; Cyril Macdonald Plumptre, Guy's Hospital; Norman Prescott, University College and King's College Hospitals; Frederick Charles Pybus, M.B., B.S. Durh., Durham University and St. Bartholomew's Hospital; Cuthbert Raymond, B.A. Cantab., Cambridge University and London Hospital; William Frederick Rhodes, B.A. Cantab., Cambridge University and St. Thomas's Hospital; James Stanley Robertson, London Hospital; David Davey Rosewarne, New Zealand University and St. Mary's Hospital; Ahmed Said, Cairo, St. Thomas's and London Hospitals; Arthur Frederick Sanderson, St. Thomas's Hospital; Harold Willis Scawin, Sheffield University and St. Thomas's Hospital; Alexander Sinclair, M.B. Toronto, Toronto University and University College Hospital; David Priestley, Smith, M.B., Ch.B. Birmingham, Birmingham University; Ivan Norman Spedding, Otago University and Middlesex Hospital; Harold Edward Sutherland Stiven, B.A. Cantab., Cambridge University and London Hospital; Arthur Carlile Sturdy, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital; Francis Ruthven Thornton, B.A. Cantab., Cambridge University and St. Thomas's Hospital; William Wilkinson Uttley, Manchester University; Richard Grenville Vaughan, University College, Bristol; George Bertram Wainwright, B.A. Cantab., Cambridge University and St. Thomas's Hospital; Harold Kirk Waller, Cambridge University and University College Hospital; William Evershed Wallis, B.A. Cantab., Cambridge University and Guy's Hospital; Francis James Wheeler, Guy's Hospital; Jacob Hodgson Wickert, London Hospital; Humphrey Bowstead Wilson, B.A. Cantab., Cambridge University and St. Thomas's Hospital; and Philip Frederick Wilson, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital.

The diploma in Public Health was conferred upon the following 13 gentlemen:—

Alfred Ball, M.B., B.S. Lond., L.R.C.P., M.R.C.S., University College Hospital; Robert James Bethune, M.D., B.Ch. R.U.I., Queen's College, Belfast, and University College Hospital; Arthur Burnell Carter, L.R.C.P., M.R.C.S., Cambridge University and Guy's Hospital; Bertram Walter Cherrett, M.B., B.S. Lond., L.R.C.P., M.R.C.S., St. Bartholomew's Hospital; James Clark, M.D., Ch.B. Aberdeen, M.R.C.P. Lond., Aberdeen University and University College Hospital; James Alfred Patrick Cullen, M.B. Lond., L.R.C.P., M.R.C.S., London Hospital; Leonard Fabian Hirst, M.B., B.S. Lond., L.R.C.P., M.R.C.S., University College Hospital; Duncan Matheson Johnston, L.R.C.P., M.R.C.S., Durham University and St. Bartholomew's Hospital; Andrew Alexander McWhan, M.B., Ch.B. Glasg., Glasgow University and University College Hospital; Frederick Septimus Penny, Captain, R.A.M.C., M.B. Lond., L.R.C.P., M.R.C.S., King's College and Royal Army Medical College; Norman Hamilton Walker, M.B., B.S. Lond., L.R.C.P., M.R.C.S., St. Bartholomew's Hospital; Arthur Harold Wilson, L.R.C.P. & S. Edin., L.F.P. & S. Glasg., Birmingham University; and Subrahmanyam Yenamandram, L.M. & S. Madras, Madras and King's College.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—An ordinary meeting of the Council was held on Feb. 11th, Mr. Henry Morris, the President, being in the chair. The President reported that H.R.H. the Prince of Wales had graciously consented to become an Honorary Fellow of the College; and on a vote being taken His Royal Highness was unanimously elected. It was resolved to issue diplomas of Membership to 81 successful candidates, and it was further resolved to issue, in conjunction with the Royal College of Physicians of London, diplomas in Public Health to 13 successful candidates. Mr. C. T. Dent was elected a member of the board of examiners in dental surgery to fill the vacancy occasioned by the retirement of Mr. G. H. Makins. Licences to practise Dentistry have been conferred upon the following gentlemen who have now complied with the by-laws:—

Clifford Merrick Haydon, Charing Cross and Royal Dental Hospitals; and Percy William Lumley, Manchester University

UNIVERSITY OF CAMBRIDGE.—Mr. E. C. Stirling, M.A., M.D., Trinity College, has been approved for the degree of Sc.D.—The following have been appointed electors to professorships: Dr. J. N. Langley, professorship of anatomy; Sir T. Clifford Allbutt, professorship of pathology; Dr. W. H. Gaskell, professorship of surgery; Dr. W. M. Fletcher, Downing professorship of medicine; and Dr. E. H. Starling, professorship of physiology.—Dr. L. Humphry has been coöpted a member of the degree committee of the Special Board for Medicine.—The following degrees were conferred on Feb. 11th:—

*M.D.*—T. M. Neatby, St. John's.
*M.B.*—B. P. Campbell, Clare; and W. D. Keyworth, H. Selwyn.
*M.B., B.C.*—O. R. Smale and F. B. Treves, Gonville and Caius.
*B.C.*—T. W. Wood, Pembroke.

UNIVERSITY OF LONDON.—The following awards of University medals have been made upon the results of the M.D. and M.S. examinations, December, 1908:—University medal in Branch I. (Medicine) of the M.D. examination: Mr. William Mackenzie Sadler, B.S. (University College Hospital). University medal in Branch II. (Pathology) of the M.D. examination: Mr. Oskar Cameron Gruner (University of Leeds). University medal in Branch IV. (Midwifery and Diseases of Women) of the M.D. examination: Mr. Robert Applegarth Hendry, B.S. (University of Liverpool). University medal in Branch V. (State Medicine) of the M.D. examination: Miss Barbara Tchaykovsky, B.S., B.Sc. (London (Royal Free Hospital) School of Medicine for Women and University College). University medal at the M.S. examination: Mr. Henry John Nightingale (St. Thomas's Hospital).—At the Intermediate Examination in Medicine held in January the following candidates were successful:—

Carlyle Aldis, Guy's Hospital; Charles Howard Backus, St. Bartholomew's Hospital; Sydney Guy Billington, University of Birmingham; Margaret Eliza Björkegren, London (Royal Free Hospital) School of Medicine for Women; Bertie Blackwood, University of Leeds and Guy's Hospital; Florence Hilda Bousfield, London (Royal Free Hospital) School of Medicine for Women; Tudor David Bowen, University College, Cardiff, and University College; George Francis Bradley, London Hospital; Basil William Brown, King's College and Westminster Hospital; Monamy Aston C. Buckell, University College; *George Bent Buckley, Victoria University of Manchester; Winifred Finnimore Buckley, London (Royal Free Hospital) School of Medicine for Women; Arthur Barrett Cardew, Middlesex Hospital; Alfred Bernard Clark and John Henry Cobb, University of Sheffield; Henry St. Clair Colson, King's College; Gordon Covell, Guy's Hospital; Edward George Huxley Cowen, Charing Cross Hospital; Herbert Davies, University College; William Henry Dupré, St. Bartholomew's Hospital; William Halley Eggar, Middlesex Hospital; Ralph Franklin Eminson, Charing Cross Hospital; David Benjamin Evans, University College, Cardiff; Geoffrey T. Foster-Smith, Guy's Hospital; Frances Jane Preston, London (Royal Free Hospital) School of Medicine for Women; Vincent Glendining, Guy's Hospital; Alice Mary Ley Greaves, London (Royal Free Hospital) School of Medicine for Women; Frederick Wood Hamilton, Middlesex Hospital; Herbert Leslie Hopkins, Guy's Hospital; William Balfour Laird, St. Thomas's Hospital; Leon Levene, University College; Geoffrey Marshall, Guy's Hospital; †Mendel Mayers, London Hospital; Patrick John Monaghan, Guy's Hospital; Hannah Grace Morland, London (Royal Free Hospital) School of Medicine for Women; John Grimson Moseley, London Hospital; †Clement Treves Neve, St. Bartholomew's Hospital; Thaddeus T. O'Callaghan, Guy's Hospital; Willie Howarth Parkinson, Victoria University of Manchester; †Bernard Rayne Parmiter, Guy's Hospital; *†Reginald Edward Porter, *James Potter, and Hugh Huntley Robinson, London Hospital; Charles Frank Schuler, St. Thomas's Hospital; Emmanuel Prinski Scott, London Hospital; Reginald Gershom Sparkes, St. Mary's Hospital; Mildred Blanche Stogdon, London (Royal Free Hospital) School of Medicine for Women; Francis Richard Todd, John Tremble, and Richard Trevor Vivian, St. Bartholomew's Hospital; Geo. Edgar Septimus Ward, Middlesex Hospital; Harold Percy Warner, Guy's Hospital; *Harvey Henry Vincent Welch, St. Thomas's Hospital; Francis Silvanus Williams, University College, Cardiff, and St. Bartholomew's Hospital; and Roger Michael Wright, University College, Bristol.

* Distinguished in Pharmacology.
† Distinguished in Physiology.

N.B.—This list, published for the convenience of candidates, is issued subject to its approval by the Senate.

FOREIGN UNIVERSITY INTELLIGENCE.—*Heidelberg:* A sum of £6500 has been given by a foreign scientist for the establishment of a Radiological Institute. This is expected to be in working order by the beginning of the summer semester.—*Rome:* Dr. De Carli has been recognised as *privat-docent* of Otology and Laryngology.—*Strasburg:* Dr. Kohts, Extraordinary Professor of Children's Diseases, is retiring at the end of the current semester.—*Tours:* Dr. Barnsby has been appointed Professor of External Pathology.—*Vienna:* Dr. Maximilian Weinberger has been recognised as *privat-docent* of Medicine.

MEDICO-LEGAL SOCIETY.—At a meeting of the Medico-Legal Society held on Tuesday, Feb. 16th, Mr. G. Bernard Shaw opened a discussion on the Socialist Criticism of the Medical Profession. His main thesis was the necessity of nationalising the medical service of the country, both in the interests of the medical practitioners and of their patients. The debate was continued by Sir T. Clifford Allbutt, Sir Victor Horsley, Dr. F. J. Smith, and Mr. F. Lawson Dodd. Dr. F. W. Hewitt was in the chair.

THE WEST LONDON MEDICO-CHIRURGICAL SOCIETY held its annual dinner on Feb. 12th at the Wharncliffe Rooms, Hotel Great Central, London, with Colonel T. H. Hendley, I.M.S. (retired), the President, in the chair. After the usual loyal toasts had been duly honoured, Mr. R. Lake in a spirited speech proposed "The Imperial Forces," referring in the course of his remarks to the Navy, submarines, and the Territorial Army. This was replied to by Inspector-General J. Porter, R.N., who insisted on the vital necessity not only of providing battleships but also of expending sufficient money on machinery, on men, on docks, and last, but not least, on doctors. Sir Richard Douglas Powell then gave the toast of the evening, "The Society," and mentioned that though the Royal Society of Medicine covered an enormous field of work, there still remained room for what he termed "peripheral" societies, where men could foregather in a manner which need not be of a very formal character, resulting in the production of good fellowship and in practical instruction in ethics. The Chairman, in responding, gave an interesting account of the scope of the work done by the society during the past year. Mr. L. A. Bidwell was intrusted with the toast of "Kindred Societies and Guests," which he submitted in a graceful and well-balanced speech, to which replies were forthcoming from Sir William S. Church and Dr. W. P. Herringham.

THE HAMPSTEAD GENERAL HOSPITAL.—The Hampstead General Hospital, it will be remembered, has been passing through somewhat troubled waters during the last two years in the process of its amalgamation with the North-West London Hospital and its consequent change of staff. It was feared that the support of Hampstead residents would be alienated to a serious extent as the result of the controversies to which these events gave rise, but such misgivings were considerably dispersed at the biennial festival dinner in support of the hospital's maintenance fund, which took place at the Trocadéro Restaurant on Feb. 16th under the genial chairmanship of Mr. Samuel Figgis, F.R.G.S. On this occasion Mr. G. Watts, the secretary, was able to announce a subscription list of £3050, of which sum over two-thirds were due to the chairman's persuasiveness and generosity. In proposing "Prosperity to the Hospital," Mr. Figgis alluded to the increasing work which it was doing amongst the poor of the north-western suburbs of London and to its opportunity for extended usefulness presented by its paying beds to people of moderate incomes requiring skilled operative treatment and nursing. He proceeded to speak in guarded terms of the recent administrative crisis through which the hospital has passed, expressing with feeling the hope that the medical profession in Hampstead would accept in a liberal manner the situation in which the hospital had been placed by the force of circumstances. Mr. Ernest Collins, the chairman of the hospital, in replying, breathed a like spirit of conciliation, and declared his council's readiness to accede gladly to any reasonable arrangement with the medical practitioners of Hampstead which would engage their friendly support in the work of the hospital. As a justification of its expansion he quoted figures to show the support which it had gained from the public and hospital funds, £55,829 having been collected for the building fund, £14,000 for an endowment fund, and over £20,000 for the maintenance fund since 1904 in amounts increasing rapidly with each year. He could give a hopeful forecast of the financial future of the hospital. We are glad to record these figures as they seem to us to afford striking testimony to the excellent work which has been done for the hospital in the past by the medical staff who have resigned out of deference to principle. We congratulate the hospital on the immediate success of its dinner, the festivity of which was unhappily chastened by the death on the same day of Mr. W. F. Malcolm, who was a generous

benefactor of the hospital since its foundation and whose name is perpetuated in its children's ward. The remaining toasts given were, "The Houses of Parliament," proposed by Mr. H. A. Harben and replied to by Mr. J. S. Fletcher, M.P.; "The Medical Staff," proposed by the Mayor of Hampstead and replied to by Dr. G. A. Sutherland; and "The Chairman," proposed by Mr. F. Debenham and acclaimed by the numerous company with the enthusiasm which his exertions had earned.

REGISTRATION OF NURSES.—A meeting of those interested in the registration of nurses in Scotland will be held on Feb. 27th at 3 P.M., in the Merchants' Hall, 30, George-square, Glasgow. The chair will be taken by Lord Inverclyde.

TAUNTON AND SOMERSET HOSPITAL.—Mr. J. Bevan of the Great Western Locomotive Department at Taunton has been elected a life governor of the Taunton and Somerset Hospital. During the past 20 years Mr. Bevan has collected for the institution £500 in penny subscriptions from his fellow employees.

THE CLIFTON DISPENSARY.—The annual meeting of the subscribers to the Clifton Dispensary was held on Feb. 2nd. The medical report stated that during 1908 2548 patients, including 84 midwifery cases, had been treated. The financial statement showed an unfavourable balance of £49. The committee states that it is impossible materially to decrease the expenditure and makes an earnest appeal for increased subscriptions.

THE ROYAL SANITARY INSTITUTE.—A sessional meeting of this institute will be held at the Parkes Museum on Wednesday, March 3rd, at 8 P.M., when a discussion will take place on the Control of Infectious Diseases in Schools. It will be opened by Dr. D. A. Carruthers, county education medical officer, Bucks. The chair will be taken by Mr. A. Wynter Blyth, registrar of the institute. Tickets for admission of visitors may be had on application to the secretary.

THE HEALTH OF WESTWARD HO.—Dr. E. J. Toye, the medical officer of health of the Northam (Devon) urban district, in his annual report for 1908, states that the death-rate was 13·97, compared with 12·97 in 1907. Dr. Toye draws attention to the excellent report of Westward Ho, especially with regard to tuberculous disease. He states that this village of 700 inhabitants has not had a fatal case of tuberculosis for the past ten years and adds that there had practically been no infectious diseases notified in his district during the past year.

MONMOUTH COUNTY ASYLUM.—The asylum at Abergavenny was erected in 1851 for persons residing in the counties of Monmouth, Hereford, Brecon, and Radnor. In subsequent years patients from Herefordshire have been accommodated in the Burghill asylum and those from Brecknockshire and Radnorshire at Talgarth, while within the last few years the Newport corporation has established a separate institution for Newport patients at Caerleon. The Abergavenny institution does not appear even now to be used exclusively for patients from the administrative county of Monmouth, for there are at present among its inmates 120 from Shropshire and Essex. The profit made from boarding patients from other counties is considerable. In the case of the Abergavenny asylum it has amounted in the past 12 years to nearly £53,000, out of which sum about £18,000 have been paid over in the relief of rates and £32,000 have been expended on new buildings.

SCHOOL INSPECTION IN THE COUNTY OF DURHAM.—The education committee of the Durham county council had before it at its last meeting a report prepared by the clerk on the medical inspection of school children. The report stated that it must be generally accepted that medical inspection, unless followed by advice and treatment, was of no practical value whatever. It was also recommended that the health committee should undertake the arrangements for attending to the health and physical condition of school children so far as home conditions are concerned, and that three additional medical inspectors should be appointed. The consideration of the report was deferred to enable the clerk to submit statistics as to the number of children to be examined, the rate of progress now being made by the school medical officers, and the financial effect of the recommendations contained in the report.

LAUNCESTON (CORNWALL) INFIRMARY.—The committee of the Launceston Infirmary has recently issued an appeal for £1000 for the purpose of erecting a new operating theatre. £700 have been already received and it is hoped that the balance will be raised shortly.

INFANTILE PARALYSIS.—The Vienna Pædiatric Society is making a collective inquiry on the subject of acute anterior poliomyelitis: its infectious or contagious character and its relations to other pyretic affections of the central or peripheral nervous system. Correspondence may be addressed to Dr. Zappert, *privat-docent*, Vienna.

THE HEALTH OF BURNHAM (SOMERSET).—Dr. F. C. Berry, the medical officer of health of Burnham, in his annual report for 1908, states that during the year the birth-rate was 16 per 1000 and the death-rate 12 per 1000. The zymotic death-rate was *nil*. Dr. Berry strongly urges the provision of an isolation hospital for the district.

ROYAL DEVON AND EXETER HOSPITAL.—A successful performance of the *Gondoliers* was given on Feb. 8th and five following evenings by the members of the Exeter Amateur Operatic Society. The proceeds will be devoted to the Royal Devon and Exeter Hospital. The performance last year of the *Mikado* resulted in the sum of £100 being handed over to the Royal Devon and Exeter Hospital and the West of England Eye Infirmary.

DONATIONS AND BEQUESTS.—By the will of the late Major Robert Dobbie, of Beechmount, Larbert, Stirling, £500 have been bequeathed to the Falkirk Cottage Hospital, and a like sum to the Larbert and Stenhousemuir Nursing Association and to the Larbert Imbecile Institution; £500 have also been left for the endowment fund of the Falkirk Cottage Hospital.—Under the will of the late Mr. James Taylor, of Palatine-road, Blackpool, £500 have been left to the Victoria Hospital, Blackpool, to found a Taylor cot, and, subject to a life interest, £500 to the Oldham Infirmary for a Taylor cot.—The trustees of the bequest of the late Mr. James Dick have allocated £30,000 to the Victoria and the Western Infirmaries, Glasgow.

MIDLAND MEDICAL UNION.—On Feb. 10th the annual meeting of this Union was held at Chesterfield, Mr. R. G. Allen, the President, being in the chair. The annual report was presented and adopted and the accounts for the past year as audited were passed. A vote of thanks was accorded to Mr. Allen, the retiring President, for the care and attention which he had devoted to the work of the Union during a very busy year. Mr. Josiah Court, of Staveley, was elected President for the ensuing year. The council and other honorary officers were elected and the general secretary was reappointed. It was resolved that the Union should approach the British Medical Association with a view to become (without losing its identity) a committee of that Association in a manner similar to that adopted in the case of the Durham Medical Union. A referendum taken by postcard was read, from which it appeared that the majority of the members were in favour of the proposal. It was further resolved that the matter should be referred to the consideration of two sub-committees, one for Nottingham division of the Union and the other for the Derby division; and that (subject to their consent) the following gentlemen should be appointed, with power to add to their number:—Nottingham sub-committee: Mr. J. H. Cox, Mr. J. Mackie, Dr. F. R. Mutch, Dr. A. Fulton, and Dr. W. H. Hill. For the Derby sub-committee: Mr. Court, Mr. Allen, Dr. G. Booth, Dr. J. A. Goodfellow, and Dr. A. Green. Dr. T. Henderson (honorary secretary, Nottingham Division, British Medical Association), who was present by invitation, spoke in favour of the proposal. After the meeting the annual dinner was held at the Hotel Portland, under the presidency of Mr. Allen (in the absence through illness of the newly elected President, Mr. Court). Amongst those attending were the Mayor (Mr. S. E. Short) and Mayoress of Chesterfield. The loyal toasts were proposed by the chairman. The toast of "The Midland Medical Union" was proposed by Dr. Arthur J. Hall (Sheffield) and was responded to by the chairman.

## BOOKS, ETC., RECEIVED.

ALLMAN AND SON, LIMITED, London.

An Atlas of the Muscular System. With Anatomical Description. By Harry G. Critchley, M.A., M.D. Price 5s. net.

BAILLIÈRE, TINDALL AND COX, London. (For DEPARTMENT OF EDUCATION, SUDAN GOVERNMENT, Khartoum.)

Third Report of the Wellcome Research Laboratories at the Gordon Memorial College, Khartoum. Andrew Balfour, M.D., B.Sc., F.R.C.P. Edin., D.P.H. Camb., Director. Price 21s. net.

Review of Some of the Recent Advances in Tropical Medicine. Being a Supplement to the Third Report of the Wellcome Research Laboratories at the Gordon Memorial College, Khartoum. By Andrew Balfour, M.D., B.Sc., F.R.C.P. Edin., D.P.H. Camb., Director, and R. G. Archibald, M.B., R.A.M.C., attached E.A., Pathologist and Assistant Bacteriologist. Price 10s. 6d. net.

CASSELL AND CO., LIMITED, London, New York, Toronto, and Melbourne.

A Manual of Medical Treatment or Clinical Therapeutics. New Edition. By I. Burney Yeo, M.D., F.R.C.P., Raymond Crawfurd, M.A., M.D. Oxon., F.R.C.P., and E. Farquhar Buzzard, M.A., M.D. Oxon., F.R.C.P. In two Volumes. Price 21s. net.

CORNISH BROTHERS, LIMITED, Birmingham. (SIMPKIN, MARSHALL, AND CO., LIMITED, London.)

Movable Kidney. By C. W. Suckling, M.D. Lond., M.R.C.P. Price not stated.

DEUTICKE, FRANZ, Leipzig und Wien.

Des Kindes Ernährung, Ernährungsstörungen und Ernährungstherapie. Ein Handbuch für Aerzte. Von Professor Ad. Czerny und Professor A. Keller. Siebente Abteilung. Price M.3.60.

PROWDE, HENRY, AND HODDER AND STOUGHTON, London.

Oxford Medical Publications. Gunshot Wounds. By C. G. Spencer, M.B. Lond., F.R.C.S. Eng., Major, Royal Army Medical Corps. Price not stated.

GREEN, WILLIAM, AND SONS, Edinburgh.

Management and Construction of Poorhouses and Almshouses. By George A. Mackay of the Local Government Board for Scotland. Price 15s. net.

LONGMANS, GREEN, AND CO., London, New York, Bombay, and Calcutta.

An Introduction to the Science of Radio-Activity. By Charles W. Raffety. Price 4s. 6d. net.

MACMILLAN AND CO., LIMITED, London.

On the Poison of Venomous Snakes and the Methods of Preventing Death from their Bite. Reprinted Papers. By the late Sir Joseph Fayrer, Bart., K.C.S.I., M.D., F.R.C.P., F.R.S., Sir Lauder Brunton, Bart., LL.D., M.D., F.R.C.P., F.R.S., and Major Leonard Rogers, I.M.S., M.S., F.R.C.P., F.R.C.S. Price 2s. 6d. net.

NISBET, JAMES, AND CO., LIMITED, London.

Injuries and Diseases of the Knee-joint, considered from the Clinical Aspect. By Sir William Bennett, K.C.V.O., F.R.C.S. Price 5s. net.

Nisbet's Medical Directory, 1909. In Two Parts. Part I., Directory of Medical Practitioners. Part II., The Local Directory. Price 7s. 6d.

REBMAN, LIMITED, London.

Emergency Surgery. For the General Practitioner. By John W. Sluss, A.M., M.D. Price 15s. net.

High-Frequency Currents. By Frederick Finch Strong, M.D. Price 12s. 6d. net.

Intestinal Auto-Intoxication. By A. Combe, M.D. Together with an Appendix on the Lactic Ferments by Albert Fournier. Only authorised English Adaptation. By William Gaymor States, M.D. Price 16s. 6d. net.

RIVERS, ALSTON, LIMITED, London.

Labour and Housing at Port Sunlight. By W. L. George. Price 3s. 6d. net.

WILSON, EFFINGHAM, London.

Capital and Investment. Price 1s. By post 1s. 3d. net.

WOOD, WILLIAM, AND COMPANY, New York.

American Practice of Surgery. Editors: Joseph D. Bryant, M.D., LL.D., and Albert H. Buck, M.D. Complete in Eight Volumes. Vol. V. Price not stated.

UNIVERSITY TUTORIAL PRESS, Cambridge.

University Correspondence College. The Calendar, 1908–1909. Price 1s. net.

# Appointments.

*Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to* THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

AUBREY, GILBERT K., L.M.S.S.A., has been appointed Clinical Assistant to the Cancer Hospital, Fulham-road, S.W.

BALLANTYNE, S. A., M.B., Ch.B. Edin., F.R.C.S. Edin., has been appointed Honorary Surgeon to the Coventry and Warwickshire Hospital.

BIRD, GERALD F., M.B. Cantab., has been appointed Medical Officer of Health of the Borough of Godalming, Surrey.

BRODRICK, CHARLES CUMBERLAND, L.R.C.P., L.R.C.S., L.M. Edin., has been appointed Medical Officer for the Whitchurch and South Lydford Districts by the Tavistock (Devon) Board of Guardians.

CARY, ARTHUR JAMES, L.R.C.P., L.R.C.S., L.M. Irel., has been appointed Medical Officer for the Fourth District of the Axbridge (Somerset) Union.

FURSEY, F. R., M.B., C.M., has been appointed Clinical Assistant to the Chelsea Hospital for Women.

GLENDINING, BRYDEN, M.B., B.S. Durh., F.R.C.S. Eng., has been appointed Pathologist to the Chelsea Hospital for Women.

LANG, BENJAMIN, M.D., has been appointed Clinical Assistant to the Chelsea Hospital for Women.

LECHE, ARTHUR, M.R.C.S., L.R.C.P. Edin., has been reappointed Medical Officer of Health of Axbridge (Somerset).

LLOYD-EVANS, VAUGHAN, M.B., Ch.B. Edin., has been appointed Senior Resident Medical Officer at the Northampton General Hospital.

MOORE, C. A., M.S., M.B. Lond., F.R.C.S., has been appointed Senior House Surgeon at the Bristol General Hospital.

PINEO, ERNEST GEORGE DOUGLAS, L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Churchill District of the Axbridge (Somerset) Union.

RITCHIE, P. W., M.D., has been appointed Clinical Assistant to the Chelsea Hospital for Women.

ROSS, DONALD, M.B., Ch.B. Edin., has been appointed Assistant Medical Officer at the Roxburgh District Asylum, Melrose.

SCOTT, MALCOLM L., M.B., Ch.B., has been appointed Clinical Assistant to the Chelsea Hospital for Women.

WADE, REGINALD, M.R.C.S., L.S.A., has been appointed Medical Officer and Public Vaccinator for the Tenth District of the Axbridge (Somerset) Union.

# Vacancies.

*For further information regarding each vacancy reference should be made to the advertisement (see Index).*

BIRKENHEAD UNION INFIRMARY AND SANATORIUM.—Assistant Medical Officer. Salary £120 per annum, with board, washing, and apartments.

BIRMINGHAM AND MIDLAND HOSPITAL FOR SKIN AND URINARY DISEASES, Birmingham.—Clinical Assistant. Salary at rate of 52 guineas per annum.

BIRMINGHAM CITY HOSPITAL.—Resident Assistant Medical Officer. Salary £120 per annum, with board, washing, &c.

BIRMINGHAM EAR AND THROAT HOSPITAL, Edmund-street.—House Surgeon. Salary at rate of £70 per annum, with board, lodging, and washing.

BRADFORD ROYAL INFIRMARY.—House Physician. Also Two House Surgeons. Salary in each case £100 per annum, with board and residence.

BRIGHTON, ROYAL ALEXANDRA HOSPITAL FOR SICK CHILDREN, Dyke-road.—House Surgeon for six months. Salary at rate of £80 per annum, with board, lodging, and washing.

BRIGHTON, SUSSEX COUNTY HOSPITAL.—Third House Surgeon, unmarried. Salary £50 per annum, with apartments, board, and laundry provided.

BRISTOL ROYAL HOSPITAL FOR SICK CHILDREN AND WOMEN.—House Surgeon. Salary £80 per annum, with board, rooms, and attendance. Also Assistant House Surgeon. Salary £50 per annum, with board, rooms, and attendance.

BRISTOL ROYAL INFIRMARY.—Resident Casualty Officer for six months. Salary at rate of £50 per annum, with board, lodging, and washing.

CANCER HOSPITAL, Fulham-road, London, S.W.—First Assistant to the Research Department. Salary £350 per annum.

CHELTENHAM GENERAL HOSPITAL.—House Surgeon, unmarried. Salary £65 per annum, with board and lodging.

CHESTER, CHESHIRE COUNTY COUNCIL.—Medical Officer of Health. Salary £750 per annum, with expenses.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL.—Junior House Surgeon. Salary £60 per annum, with board, apartments, and laundry.

DEVONPORT, ROYAL ALBERT HOSPITAL.—Assistant Resident Medical Officer, unmarried, for six months. Salary at rate of £50 per annum, with board, lodging, and laundry.

DURHAM COUNTY ASYLUM.—Junior Assistant Medical Officer. Salary £150 per annum, with board, laundry, and attendance.

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Shadwell, E.—Medical Officer to the Casualty Department for six months. Salary at rate of £100 per annum, with luncheon and tea.

EXETER, WONFORD HOUSE HOSPITAL FOR THE INSANE.—Medical Superintendent.

GAIRLOCH, SOUTHERN DIVISION OF THE PARISH.—Medical Officer. Salary at rate of £150 per annum.

HESTON AND ISLEWORTH URBAN DISTRICT COUNCIL.—Medical Officer of Health. Salary £500 per annum.

HÔPITAL FRANÇAIS, 172, Shaftesbury-avenue, W.C.—Junior Resident Medical Officer, unmarried, for six months. Salary at rate of £50 per annum, with board.

KENT AND CANTERBURY HOSPITAL.—House Surgeon, unmarried. Salary £90 per annum, with board and lodging.

KIDDERMINSTER INFIRMARY AND CHILDREN'S HOSPITAL.—House Surgeon, unmarried. Salary £100 per annum and board.

LEEDS GENERAL INFIRMARY.—Ophthalmic House Surgeon. Board, lodging, and washing provided.

LEICESTER INFIRMARY.—House Physician. Salary at rate of £100 per annum, with board, lodging, and washing.

LIVERPOOL COUNTY ASYLUM, Rainhill.—Assistant Medical Officer, unmarried. Salary £150 per annum, rising to £250, with apartments, board, attendance, and washing.

LIVERPOOL, DAVID LEWIS NORTHERN HOSPITAL.—House Surgeon. Salary at rate of £80 per annum, with residence and maintenance.

LIVERPOOL INFIRMARY FOR CHILDREN.—Resident Medical Officer for six months. Salary £30, with board and lodging.

LONDON THROAT HOSPITAL, 204, Great Portland-street, W.—Assistant Surgeon. Also House Surgeon for six months. Salary at rate of £50 per annum.

MANCHESTER CHILDREN'S HOSPITAL, Pendlebury.—Resident Medical Officer, unmarried.

MANCHESTER, CRUMPSALL WORKHOUSE.—Assistant Medical Officer, unmarried. Salary £140 per annum, with apartments, fire, light, washing, and attendance.

MANCHESTER, ST. MARY'S HOSPITALS FOR WOMEN AND CHILDREN.—Third and Fourth House Surgeons for six months. Salary £25, with board and residence.

NORWICH, NORFOLK AND NORWICH HOSPITAL.—House Surgeon, unmarried. Salary £80 per annum, with board, lodging, and washing. Also Assistant House Surgeon for six months. Salary £20, with board, lodging, and washing.

NOTTINGHAM CITY EDUCATION COMMITTEE.—Two Medical Inspectors of School Children. Salary £300 per annum each.

QUEEN CHARLOTTE'S LYING-IN HOSPITAL, Marylebone-road, N.W.—Resident Medical Officer for Out-patients' Department for four months. Salary at rate of £60 per annum, with board, residence, and washing. Also Pathologist and Registrar. Salary at rate of £80 per annum.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney-road, Bethnal Green, E.—Assistant Resident Medical Officer. Salary £75 per annum, with board, residence, and washing. Also Assistant Physician.

RHONDDA URBAN DISTRICT COUNCIL.—Assistant Medical Officer of Health. Salary £250 per annum, rising to £350.

ROSS-SHIRE, PARISH OF RESOLIS AND DISTRICT.—Resident Medical Officer. Salary £82 10s. per annum.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City-road, E.C.—Resident Medical Officer for six months. Salary at rate of £120 per annum, with board, lodging, and washing. Also Clinical Assistant in the Out patient Department on Thursdays.

ROYAL NAVAL MEDICAL SERVICE.—Examination for 15 Commissions.

RYDE, ROYAL ISLE OF WIGHT COUNTY HOSPITAL.—Resident Assistant House Surgeon. Salary £60 per annum.

ST. MARYLEBONE GENERAL DISPENSARY, 77, Welbeck-street, W.—Honorary Physician.

SHREWSBURY, SALOP INFIRMARY.—House Surgeon, unmarried. Salary £100 per annum, with board, washing, and residence.

SOUTH SHIELDS EDUCATION AUTHORITY.—School Medical Officer. Salary £250 per annum.

STAFFORD, STAFFORDSHIRE GENERAL INFIRMARY.—Assistant House Surgeon. Salary £82 per annum, with board, residence, and laundry.

STOKE-ON-TRENT, NORTH STAFFORDSHIRE INFIRMARY AND EYE HOSPITAL, Hartshill.—Senior House Surgeon. Salary £100 per annum, with apartments, board, and washing.

STROUD GENERAL HOSPITAL.—House Surgeon. Salary £100 per annum, with board, lodging, and washing.

THROAT HOSPITAL, Golden-square, W.—Resident House Surgeon. Salary £75 per annum, with board, residence, and laundry. Also Honorary Dental Surgeon.

TYNEMOUTH COUNTY BOROUGH.—Medical Officer of Health. Salary £300 per annum, increasing to £400.

VENTNOR, ROYAL NATIONAL HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST ON THE SEPARATE PRINCIPLE.—Assistant Resident Medical Officer, unmarried. Salary £100 per annum, with board and lodging.

WARRINGTON INFIRMARY AND DISPENSARY.—Senior House Surgeon, unmarried. Salary £120 per annum, with residence and board.

WEST LONDON HOSPITAL, Hammersmith-road, W.—Two House Physicians and Three House Surgeons for six months. Board, lodging, and laundry allowance provided. Also Pathologist. Salary £200 per annum.

YORK DISPENSARY.—Resident Medical Officer, unmarried. Salary £130 per annum, with board, lodging, and attendance.

# Births, Marriages, and Deaths.

## BIRTHS.

FITZWILLIAMS.—On Feb. 9th, at New Cavendish-street, W., the wife of Duncan C. L. Fitzwilliams, Ch.M., F.R.C.S., of a son.

HART-JACKSON.—On Feb. 4th, at Newbiggen-by-the Sea, Northumberland, the wife of H. Hart-Jackson, M.R.C.S., L.R.C.P. Lond., of a son.

PANK.—At Market Rasen, Lincs., on Feb. 8th, the wife of Harold W. Pank, M.R.C.S., L.R.C.P., of a daughter.

TAYLOR.—At 49, Welbeck-street, Cavendish-square, W., on Feb. 15th, the wife of James Taylor, M.D., F.R.C.P., of a daughter.

TENNYSON-SMITH.—On Feb. 10th, at Shanklin, Orpington, Kent, the wife of A. Tennyson-Smith, M.D., of a daughter.

UPWARD.—On Feb. 12th, at Edfou, Romford, the wife of Harold Upward, M.B., B.C., of a son.

## DEATHS.

NISBET.—On Feb. 13th, suddenly, at Liverpool, John Tawse Nisbet, M.D., of 7, Croxteth-road, Liverpool.

WALKER.—On Feb. 15th, at Las Palmas, Grand Canary, George Edward Walker, F.R.C.S., of 45, Rodney-street, Liverpool.

*N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.*

# Notes, Short Comments, and Answers to Correspondents.

## JUSTICES AND WATERED MILK.

A LARGE quantity of milk reaches Portsmouth every day from the Chichester district, and for some time past it has been the practice of the officers of the sanitary department to take samples at the station before it is touched by the consignee. Samples taken on Jan. 5th from churns of milk supplied by a dairy farmer at Hunston, near Chichester, showed adulteration with water to the extent of 10 per cent. in one sample and 7 per cent. in another. Proceedings were taken on Feb. 8th under the Sale of Food and Drugs Act, and the Portsmouth justices imposed a fine of 2s. in one case and 6s. in the other! They mulcted the defendant in the costs, which amounted in all to £1 11s. 9d. It is not surprising that farmers pass on to the purveyors in our large towns milk diluted with water when such inadequate penalties as these are imposed. The sanitary authority at Portsmouth might see with what success in dealing with a similar case they could summon the alleged offender for obtaining money by false pretences. Selling milk with added water—to increase the bulk and the profit—can be none other than false pretences. Procedure of this kind has been urged more than once in these columns.

## WANTED—SUGGESTIONS FOR TREATMENT.

*To the Editor of* THE LANCET.

SIR,—Might I ask, through your columns, for assistance in the elucidation of a case upon which I have been in attendance during the past three years. I may mention that the patient in question has consulted many practitioners, including several of the leading nerve specialists of the day, but without the benefit hoped for. My patient is a lady, 55, tall, cultured, and unmarried. Menstruation has ceased. Lungs, heart, and kidneys are healthy. She has suffered for many years with periodic headaches of an unusually severe migrainous character. They begin with intense pain over the right eye, and spread to the back of the right side of the head, gradually embracing the whole occiput. They are sometimes accompanied by severe sickness. The intensity of the pain is so great that she is utterly prostrated, of course in bed, for two and a half days at least, often longer, and during that time is unable to take any food except a little liquid. On several occasions she has had hyperacusis. This has latterly disappeared and given place to deafness for the time being. Her eyes have been examined; there is nothing wrong with them. Each antrum has been examined by the x rays and found healthy. Three years ago an uncut wisdom tooth with an exostosis was extracted but no real relief was given.

The chief point is the remarkable periodicity of the attacks. One occurs every three or four weeks with the utmost regularity. The patient feels it coming on one to three days beforehand, and it takes her about a week to recover from it. Between the attacks she is bright and cheerful and goes about normally, visiting, shopping, &c., even riding a bicycle at times. She loses no flesh.

I can discover no remedy to stop these attacks; the only alleviation at the time is morphia (grain doses frequently repeated, formerly given hypodermically, now by the mouth), but no drugs are taken or desired between attacks. I have tried everything I can think of, including dieting, feeding, and even a rest cure. The life of my patient is made a burden to her by the knowledge that she has to face these terrible attacks at such short and certain intervals. I may add that at no time do they appear to have had any connexion with menstruation.

I am told that in America cases of this description are very occasionally met with, but in the course of a wide English experience extending over 25 years I have never met with a similar case myself. I should be most grateful for any suggestions.

I am, Sir, yours faithfully,

Feb. 15th, 1909. PERPLEXED.

## A FABRIC FOR WEAR IN HOT CLIMATES.

*To the Editor of* THE LANCET.

SIR,—Under the name of "Solare" a material has been made for wear in hot climates. It is composed of red and white fibres so woven as to appear white outside, and the object of doing this is to absorb the actinic rays. Could any of your readers inform me where such material may be obtained?

I am, Sir, yours faithfully,

Leicester, Feb. 16th, 1909. HENRY MEADOWS, M.B. Edin.

## AN EXTENDED CHART FOR SANATORIUM USE.

Messrs. Bale, Sons, and Danielsson have sent us a specimen of a chart for sanatorium use which offers many improvements over the more ordinary style of chart. As a rule sanatorium patients are treated for at least three months and the chart before us is laid out for 13 weeks Besides the spaces for the temperature the chart is arranged for a record of the pulse, the respiration, the condition of the bowels, the sputa, the urine, and the blood, besides injections, rest, and exercise. The size of this chart (all over) is 21 inches long by 8¼ inches deep, and in our opinion it is well and conveniently designed.

### POLLUTED OYSTERS.

AT the Mansion House, on Feb. 16th, William Henry Gunn of Truro pleaded "Guilty" to being the owner of 1000 oysters exposed for sale in Billingsgate Market. 12 samples were examined by Dr. Klein and all were found grossly polluted bacteriologically. The Lord Mayor fined the defendant £50 and 10 guineas costs, with the alternative of two months' imprisonment. The prosecution was undertaken by the Fishmongers' Company, which has dealt recently with a similar case in the same court. The public is indebted to the Company's vigilance, which should be encouraged by the infliction of such exemplary punishments as we have recorded.

*Sunlight.*—We cannot give our correspondent an exact answer. Probably the germ of the chorus is to be found in one of the many mediæval students' songs. Our correspondent will find a large number of these in a book called "Carmina Burana." Some of them were translated by the late J. A. Symonds in 1884 but a new edition was published only a year or so ago.

*Verb. Sap.*—We agree with much that our correspondent says. We have no desire whatever to hedge off certain pleas and certain pleas only as orthodox, but the value of a consultation is gone when the consulting persons begin by differing in the widest possible manner with regard to first principles.

*Painful* is advised to consult his usual medical attendant.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

**During the week marked copies of the following newspapers have been received:**—*Yarmouth Independent, Bradford Observer, Standard, Durham Advertiser, Manchester Evening News, Liverpool Courier, Richmond Times, Oldham Standard, Manchester Dispatch, Birmingham Mail, Weekly Times and Echo, Cardiff Mail, Sheffield Independent, Notts Guardian, Yeovil Gazette, Scotsman, Liverpool Daily Post, &c.*

# Medical Diary for the ensuing Week.

## SOCIETIES.

**ROYAL SOCIETY OF MEDICINE, 20, Hanover-square, W.**

MONDAY.

ODONTOLOGICAL SECTION (Hon. Secretaries—H. W. Trewby, D. P. Gabell, J. Howard Mummery): at 8 P.M.

Mr. Kenneth Goadby: Report on the General Results of the Special Rules in Force in Match Factories.

The President (Mr. Leonard Matheson) will give his Inaugural Address.

Curator's Annual Report: The Curator will show some Recent Specimens with the epidiascope.

TUESDAY.

MEDICAL SECTION (Hon. Secretaries—Herbert P. Hawkins, A. M. Gossage): at 5.30 P.M.

*Paper:*

Dr. de Havilland Hall, Dr. R. G. Hebb, and Dr. Bernstein: Chloroma.

THURSDAY.

NEUROLOGICAL SECTION (Hon. Secretaries—Leonard G. Guthrie, E. Farquhar Buzzard): at 8.30 P.M.

*Papers:*

Dr. Wilfred Harris: The Alcoholic Injection Treatment for Neuralgia and Spasm.

Dr. Page May and Dr. Gordon Holmes: The Exact origin of the Pyramidal Tracts in Man and the Other Mammals.

FRIDAY.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN (Hon. Secretaries—Hugh Lett, E. I. Spriggs, Harold J. Stiles): at 5 P.M.

*Cases:*

Dr. Edmund Cautley: (1) Cerebral Diplegic Spasticity; (2) Abdominal Tuberculosis; (3) Mongolian Imbecile (?).

Dr. F. J. Poynton: Case for Diagnosis.

Mr. Sydney Stephenson: Plexiform Neuroma involving the Right Parietal Region and Right Upper Eyelid.

Dr. O. F. F. Grünbaum: Case of Hirschsprung's Disease.

*Discussion:*

On the Medical Examination of School Children (opened by Dr. George Carpenter).

EPIDEMIOLOGICAL SECTION (Hon. Secretaries—W. H. Hamer, G. S. Buchanan): at 8.30 P.M.

Dr. H. de R. Morgan and Dr. J. C. G. Ledingham: The Bacteriology of Summer Diarrhœa in Children.

*N.B.—Fellows of the Society are entitled to attend and to speak at all Meetings.*

**MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish-square, W.**

MONDAY.—8.30 P.M., Mr. L. S. Dudgeon: Some Points in the Pathology of Pernicious Anæmia.—Dr. H. S. French: Some Clinical Aspects of Pernicious Anæmia.

**ROYAL SOCIETY OF ARTS, John-street, Adelphi, W.C.**

MONDAY.—8 P.M., Mr. L. Gaster: Methods of Artificial Illumination. (Cantor Lecture.)

**HUNTERIAN SOCIETY, London Hospital, Whitechapel-road, E.**

WEDNESDAY.—4 P.M., Clinical Meeting.

## LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

**ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.**

MONDAY, WEDNESDAY, AND FRIDAY.—5 P.M., Prof. W. Wright: The Morphology and Variation of the Skull.

**MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.**

MONDAY.—4 P.M., Dr. G. Little: Clinique (Skin). 5.15 P.M., Lecture:—Dr. L. Williams: Some Climacteric Disturbances.

TUESDAY.—4 P.M., Dr. C. O. Hawthorne: Clinique (Medical). 5.15 P.M., Lecture:—Dr. W. S. A. Griffith: Rupture of the Perinæum.

WEDNESDAY.—4 P.M., Mr. B. Robinson: Clinique (Surgical). 5.15 P.M. Lecture: Mr. T. Collins: Ocular Therapeutics.

THURSDAY.—4 P.M., Mr. J. Clarke: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. L. Williams: Some Climacteric Disturbances.

FRIDAY.—4 P.M., Dr. J. Horne: Clinique (Throat).

**POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.**

MONDAY.—10 A.M., Lecture:—Surgical Registrar: Demonstration of Cases in Wards. 12 noon, Lecture:—Dr. Low: Pathological Demonstration. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eyes. 2.30 P.M., Operations. 5 P.M., Lecture:—Mr. Ll. Williams: Diagnosis of Swellings of the Jaws.

TUESDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operations. Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Mr. Bidwell: Urgent Symptoms in Abdominal Cases.

WEDNESDAY.—10 A.M., Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Saunders: Diseases of Children. 12.15 P.M., Lecture:—Dr. Pritchard: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. 2.30 P.M., Operations. Dr. Robinson: Diseases of Women. 5 P.M., Lecture:—Mr. Pardoe: The Prophylaxis of Venereal Disease.

THURSDAY.—10 A.M., Lecture:—Surgical Registrar: Demonstration of Cases in Wards. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eyes. 2.30 P.M., Operations. 5 P.M., Lecture:—Mr. R. Lloyd: Anæsthetics.

FRIDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. Lecture: Medical Registrar: Demonstration of Cases in Wards. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operations. Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Dr. R. H. Cole: Puerperal Insanity.

SATURDAY.—10 A.M., Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Saunders: Diseases of Children. 12.15 P.M., Lecture:—Dr. Pritchard: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. 2.30 P.M., Operations. Dr. Robinson: Diseases of Women.

**NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.**

MONDAY.—Clinics:—10 A.M., Surgical Out-patient (Mr. H. Evans). 2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Nose, Throat, and Ear (Mr. H. W. Carson); X Rays. 4.30 P.M., Medical In-patient (Dr. A. J. Whiting).

TUESDAY.—Clinic: 10 A.M., Medical Out-patient (Dr. A. G. Auld). 2.30 P.M., Operations (Mr. Carson). Clinics:—Surgical Out-patient (Mr. W. Edmunds); Gynæcological (Dr. A. E. Giles). 4.30 P.M., Demonstration:—Dr. A. H. Pirie: On the Use of X Rays in the Diagnosis of Calculi.

WEDNESDAY.—Clinics:—2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Skin (Dr. G. N. Meachen); Eye (Mr. R. P. Brooks).

THURSDAY.—2.30 P.M., Gynæcological Operations (Dr. A. E. Giles). Clinics:—Medical Out-patient (Dr. A. J. Whiting); Surgical (Mr. H. W. Carson); X Rays. 3 P.M., Medical In-patient (Dr. G. P. Chappel). 4.30 P.M., Lecture:—Dr. A. G. Auld: Difficulties encountered in the Physical Examination of the Lungs and Heart.

FRIDAY.—10 A.M., Clinic:—Surgical Out-patient (Mr. H. Evans). 2.30 P.M., Operations (Mr. W. Edmunds). Clinics:—Medical Out-patient (Dr. A. G. Auld); Eye (Mr. R. P. Brooks). 3 P.M., Medical In-patient (Dr. R. M. Leslie).

**LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.**

MONDAY.—2 P.M., Operations. 2.15 P.M., Sir Dyce Duckworth: Medicine. 3.15 P.M., Mr. Turner: Surgery. 4 P.M., Mr. Lawrence: Ear and Throat. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat.

TUESDAY.—2 P.M., Operations. 2.15 P.M., Dr. R. Wells: Medicine. 3.15 P.M., Mr. Carless: Surgery. 4 P.M., Sir M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin.

WEDNESDAY.—2 P.M., Operations. 2.15 P.M., Dr. F. Taylor: Medicine. 3.30 P.M., Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye. 2.15 P.M., Special Lecture:—Dr. F. Taylor: Peripheral Neuritis.

THURSDAY.—2 P.M., Operations. 2.15 P.M., Dr. G. Rankin: Medicine. 3.15 P.M., Sir W. Bennett: Surgery. 4 P.M., Dr. Sale-Barker: Radiography. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat.

FRIDAY.—2 P.M., Operations. 2.15 P.M., Dr. R. Bradford: Medicine. 3.15 P.M., Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin. 3.15 P.M., Special Lecture:—Mr. McGavin: Psoas Abscess, its Origin and Surgical Treatment.

SATURDAY.—2 P.M., Operations. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye.

**WEST-END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM, 73, Welbeck-street, W.**

MONDAY.—3 P.M., Clinical Demonstration: Dr. H. Campbell.
TUESDAY.—5 P.M., Clinical Demonstration: Dr. P. Stewart.
WEDNESDAY.—3 P.M. Clinical Demonstration: Dr. F. Palmer.
THURSDAY.—3 P.M., Clinical Demonstration: Dr. T. D. Savill.
FRIDAY.—5 P.M., Clinical Demonstration: Dr. E. Macnamara.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, Leicester-square, W.C.
THURSDAY.—6 P.M., Chesterfield Lecture:—Baldness, its Causes and Treatment.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.
TUESDAY.—3.30 P.M., Clinical Lecture:—Dr. Russell: The Significance of Paralysis of Cranial Nerves.
FRIDAY.—3.30 P.M., Clinical Lecture:—Mr. Sargent: Some Intracranial Complications of Otitis Media.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn-road, W.C.
TUESDAY.—3.45 P.M., Lecture:—Dr. Atkinson: Pharynx and Nasopharynx.
FRIDAY.—3.45 P.M., Lecture:—Dr. Abercrombie: Pharynx and Nasopharynx.

## OPERATIONS.

### METROPOLITAN HOSPITALS.

**MONDAY (22nd).**—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M.), St. Mark's (2.30 P.M.).

**TUESDAY (23rd).**—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M., Ophthalmic, 2 P.M.), Tottenham (2.30 P.M.) Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

**WEDNESDAY (24th).**—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.), West London (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

**THURSDAY (25th).**—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M.), Tottenham (Gynæcological, 2.30 P.M.), West London (2.30 P.M), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

**FRIDAY (26th).**—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.)., Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

**SATURDAY (27th).**—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 A.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M.), West London (2.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospital operations are performed daily.

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## MANAGER'S NOTICES.

### THE INDEX TO THE LANCET.

The Index and Title-page to Vol. II. of 1908, which was completed with the issue of Dec. 26th, were given in THE LANCET of Jan. 2nd, 1909.

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*(Taken daily at 8.30 a.m. by Steward's Instruments.)*

THE LANCET Office, Feb. 18th, 1909.

| Date. | Barometer reduced to Sea Level and 32° F. | Direction of Wind. | Rainfall. | Solar Radio in Vacuo. | Maximum Temp. Shade. | Min. Temp. | Wet Bulb. | Dry Bulb. | Remarks. |
|---|---|---|---|---|---|---|---|---|---|
| Feb. 12 | 30·11 | N.E. | 0·04 | 69 | 38 | 32 | ... | 32 | Cloudy |
| ,, 13 | 30 45 | N.E. | ... | 57 | 37 | 30 | ... | 32 | Fine |
| ,, 14 | 30·48 | S.W. | ... | 59 | 44 | 29 | 32 | 34 | Overcast |
| ,, 15 | 30·23 | S.W. | 0·01 | 77 | 50 | 34 | 43 | 44 | Overcast |
| ,, 16 | 30·21 | N.E. | ... | 70 | 43 | 35 | 34 | 35 | Fine |
| ,, 17 | 30·14 | W. | ... | 57 | 45 | 35 | 35 | 36 | Overcast |
| ,, 18 | 30·06 | S. | ... | 70 | 45 | 35 | 37 | 39 | Cloudy |

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